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Magazine of the Year
2006

MARKETING IT
Bruce A. Stewart urges IT departments to think about the messages they're sending. **PAGE 20**

ON THE MARK
Apple's Steve Jobs takes some jabs at Microsoft over Windows Vista. **PAGE 10**

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Philly Officials Try to Revive Billing System

City, Oracle negotiate over future of apps rollout after delays, cost overruns

BY MATT HAMBLEN

After three years and a higher-than-expected investment of $18 million, the city of Philadelphia has yet to deploy a new billing system for its half-million water customers and is now working with lead vendor Oracle Corp. to try to revive the project.

> **[City officials] picked a company that had never done a water billing system. Municipal billing systems tend to be tremendously complex.**
>
> **KUMAR KISHINCHAND, FORMER PHILADELPHIA WATER COMMISSIONER**

The billing system, code-named Project Ocean, was designed to replace a 30-year-old, custom-built application that relies on punch cards and doesn't collect all the revenue it should, according to city officials and municipal records. The new system was supposed to take just one year to implement, but the city halted work on Project Ocean last October after having spent more than twice as much money as it initially expected to.

The effort has stumbled because of technical complexity, Oracle's inexperience at building such a system and the departures of several project managers and executive sponsors who were overseeing the rollout, according to Philadelphia's CIO, Dianah Neff. She also now plans to leave her job and said that she doesn't expect the negotiations with Oracle to be completed before her scheduled last day on Sept. 8.

Neff, who has pushed the development of a municipal Wi-Fi network in Philadelphia, is taking a consulting job focused on Wi-Fi in another city. She said that Project Ocean will remain on hold until officials from the Mayor's Office of Information Services and other

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IT TURNAROUNDS

The nonprofit World Wildlife Fund takes a businesslike approach to IT.
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After some blunders, Volkswagen of America gets back on track with IT governance.
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CLAUDIO VAZQUEZ
The WWF IT team embraces for-profit methods.

MICHELLE ANOONIAN
VWoA's IT leaders help align IT with business.

Gen 2 Tags Boost RFID, But Uncertainties Linger

Early users cite accuracy and price gains; maturity and value still at issue

BY MARC L. SONGINI

Proponents of radio frequency identification technology have a lot riding on the success of a new generation of systems now being deployed. Although their initial findings look promising in terms of accuracy, cost and compatibility, questions remain among some users about RFID's maturity and business value.

Many first-generation RFID systems suffered from disappointing read rates and a lack of universal standards. So it's not surprising that adoption of so-called RFID Generation 2 technology has been relatively swift. Mandates to suppliers from heavyweight users such as Wal-Mart Stores Inc. and the U.S. Department of Defense have also spurred the quick shift to Gen 2.

According to users who have gone live with Gen 2 tags, the improvement in read-rate accuracy that they provide over first-generation RFID technology is significant. However, they noted that Gen 2 is still new and that there are limits to its current capabilities, as well as questions about how to apply the technology to business problems.

Still, Gen 2 adoption is progressing quickly. Wal-Mart has so far this summer moved all but two of its approximately 300 RFID-enabled suppliers to the technology, ac-

Gen 2 RFID, page 16

SUCCESS SIGNALS
RFID starts to live up to its hype as IT finds uses for it in asset-tracking applications.
PAGE 24

NEWSPAPER

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_INFRASTRUCTURE LOG

_DAY 33: Our information is out of control. It's siloed. It's unmanageable. People can't access the latest information to make decisions. Gil's had enough. He's decided to give everyone access to everything all at once.

_Monitors now outnumber humans 18 to 1.

_DAY 36: It's clear to me now. We need an IBM Information On Demand middleware solution. Information will be liberated from the silos — available when we need it, whatever the format. It will be accurate and in context. Since it's based on open standards and a service oriented architecture, we can handle whatever the future brings. Now we can make smarter decisions and deliver real business value.

_Access is a beautiful thing.

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08.14.06

RFID Success Signals

In the Technology section: Deployments of radio frequency identification technology are increasing as the cost of tags decreases. For now, RFID is finding a place among shippers and retailers, and there are signs that the technology may finally live up to its hype. **Page 24**

NEWS

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8 IBM's support for turning mainframe processing capacity on and off as needed is a major reason why some corporate users are staying with its System z9 hardware.

9 The planned buyout of McData by storage switch rival Brocade Communications Systems is raising concerns among some IT managers that the products they use will be phased out.

12 Global Dispatches: Telstra, Australia's largest telecommunications vendor, said it is scrapping plans for a national high-speed broadband network after reaching an impasse with regulators on charging rival vendors for access.

12 Publisher Simon & Schuster turned to a data aggregation tool to improve response times to business intelligence queries.

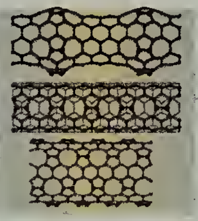
16 EMC has integrated content and digital rights management software to give companies more control over data, even when it's sent beyond their firewalls.

18 Ohio University has fired two IT managers, saying they should have done more to prevent data breaches. But the fired workers claim their dismissals are unfair.

18 The Veterans Affairs department announced that subcontractor Unisys can't find a PC with the personal data of 38,000 veterans, prompting more calls for the VA's secretary to resign.

TECHNOLOGY

28 Geek's Garden. This week's stroll through the technology landscape highlights souped-up nanotubes, laser tweezers and yet another father of calculating machines.



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33 Changing Lanes. The newly revamped Volkswagen of America has no pure IT projects or traditional IT staff. Instead, there is a finely tuned set of processes for prioritizing, executing and measuring technology-enabled business projects that help the company sell more cars.

38 Taming IT at the World Wildlife Fund. CIO Gregory Smith's injection of for-profit rigor into the organizational culture of the nonprofit World Wildlife Fund has boosted the IT group's performance and enhanced its reputation.

40 Beating Institutional Inertia. Two IT leaders share personal tales of how they overcame organizational resistance to cost-cutting projects.

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20 Don Tennant is wincing with the realization that he was off base in an earlier editorial characterizing the corporate culture of Intel as oblivious to what's needed to make the world a better place.

20 Bruce A. Stewart urges IT departments to become aware of the messages they may not realize they're sending.

21 Thornton A. May wonders whether banking will come out of its boring period and start innovating with IT again.

31 Curt A. Monash has some advice on how to build a text technology architecture.

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46 Frankly Speaking: Frank Hayes says Veterans Affairs Secretary James Nicholson should ask Congress whether it wants security problems buried or exposed to the light of day.

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So, What's Wrong With Being an Introvert?

Columnist Ira Winkler responds to Don Tennant's editorial "Stigma by Stereotype." The stereotype of IT professionals is true — accept it and deal with it, he argues.
www.computerworld.com/security
Post your comments at
www.computerworld.com/blogs/mailbag

Eight Pre-vacation To-Do's

NETWORKING: Before you head out for some R&R, be sure to follow these vital steps, advises Brad Shoop, network analyst at Erlanger Health System.
www.computerworld.com/networking

Why IT Staffers Will Like Apple's Plans

MACINTOSH: Whether it's the speedy new Xserve due out in October or updated applications in the next version of Mac OS X, IT staffers have reason to pay attention to what Apple Computer is doing, says columnist Ryan Faas.
www.computerworld.com/software

Questions to Answer Before Buying E-mail Archiving

STORAGE: Columnist Jim Damoulakis outlines a dozen issues to consider before picking your e-mail archiving technology.
www.computerworld.com/storage

What You Should Know About Pre-employment Tests

CAREERS: If you're in the dark about employee-screening tools, you may be putting your job search at a disadvantage, cautions this article from *CareerJournal.com*.
www.computerworld.com/careers

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_INFRASTRUCTURE LOG

_DAY 15: Our network's too complex to manage. We're not proactive at all; we're just reacting. Help!

_Gil brought in a crystal ball. Says he can now peer into the future of our infrastructure.

_DAY 17: I see a better way: IBM Tivoli middleware. It gives us a holistic view of the infrastructure and analyzes the relationship between apps, systems and networks. Fixes problems proactively for more uptime and more storage availability. Plus, it's open, modular and scalable.

_Gil says he saw all that too but forgot to tell us.

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AT DEADLINE

DOT Reports Theft Of Laptop in Florida

The inspector general's office at the U.S. Department of Transportation disclosed that a laptop PC containing the names, addresses, birth dates and Social Security numbers of 133,000 Florida residents was stolen from a car in Doral, Fla., on July 27. The inspector general's office said it is taking steps to ensure that no other portable devices contain personal data and is tightening its policies regarding the use of laptops.

Mass. IT Unit Forced To Halt Some Projects

Massachusetts CIO Louis Gutierrez said Friday that the state's IT division had laid off 27 contract employees as part of a shutdown of work on bond-dependent IT projects. The state legislature ended its session for the year on July 31 without approving a bond bill that included $250 million for IT initiatives. Leaders of the Massachusetts House and Senate said they're working to arrange a special legislative session to address the bill.

DOJ Seeks Info on Unifying Storage

The U.S. Department of Justice is considering a massive consolidation of its storage systems that would link devices at more than 2,000 offices and multiple data centers into an enterprise storage architecture. According to a document obtained by *Computerworld*, the DOJ last week began soliciting vendors "to identify solutions, technologies, and best practices" for interconnecting its storage infrastructure.

Cisco Buys Control Of Data Center Firm

Cisco Systems Inc. said it has invested $50 million in Nuova Systems Inc., a start-up in Santa Clara, Calif., that's developing unspecified data center products. The deal gives Cisco an 80% stake in Nuova, which will become a majority-owned subsidiary of the networking giant.

Sybase Joins Data Integration Tussle

New offering to compete with IBM, Informatica

BY ERIC LAI
LAS VEGAS

SYBASE INC. is gathering its various data integration products into a software suite and touting the bundle for use with its own databases as well as ones from rival vendors.

The Dublin, Calif.-based company last week officially announced the Sybase Data Integration Suite at its TechWave 2006 user conference here. The suite, which will initially comprise existing products that perform data replication, data federation, real-time event messaging and data search, will be released in the fourth quarter, said Kathleen Schaub, vice president of Sybase's IT solutions group.

She said the products will be integrated 35 ways — "some superficial, some quite deep" — and feature common tools and user interfaces.

"It's a good move on Sybase's part," said Joe Buhl, a senior database administrator at Wire One Communications Inc. The King of Prussia, Pa.-based audio- and videoconferencing service provider has used Sybase's Adaptive Server Enterprise (ASE) on Solaris 9 servers as its main database since 2000, with Replication Server 12.6 for disaster recovery. Buhl said Wire One is considering a proof-of-concept test with the suite's real-time messaging product to connect with its JBoss-based JMS messaging system.

"Some of their products, as with any company, don't make sense for us," Buhl said. "But ASE and Replication Server have been really, really solid software products for us."

Natexis Bleichroeder Inc., a New York-based subsidiary of Banque Populaire Group, uses Replication Server's warm-standby feature to keep its backup Sybase database "in near-real-time sync" with the active production one, while also freeing the backup server to do reporting and load balancing, according to Leonid Shteyngardt, vice president of data operations.

"It's a great product for us even though we don't use all of its features," he said.

Natexis also uses the real-time data services product to keep the various systems that need to track stock trades synchronized in real time.

"Rather than having processes pull data in a batch environment, our database is now an active player that can initiate a conversation, not just store data," Shteyngardt said.

That also allows Natexis to send immediate alerts to supervisors if a trader goes over his trading limit or otherwise makes risky moves. "At the end of the day, the head trader or corporate risk manager needs to go to bed knowing he has no headaches," he said.

Replication Server is the most popular component of the suite, with several thousand existing customers, according to Schaub. She acknowledged that many corporations aren't looking for the entire suite of features yet.

"In the next year or two, most data integration projects will continue to be individual ones," Schaub said. "But users can buy one component today, and as their needs rise, they can add other parts."

Extract, transform and load features, which Sybase acquired through its June purchase of Solonde AG in Hamburg, Germany, will be available in a version that's due late in 2007, Schaub said. That will put Sybase in competition with companies such as IBM, which bought Ascential Software Corp. last year, and, most directly, Informatica Corp., which offers the PowerCenter line of products.

But Sybase said its software is comprehensive as well as easier and cheaper to set up than competing offerings.

"No one else has brought out a suite per se. IBM is probably the farthest along — they have a number of apps — but their approach is more services-based," Schaub said. ▸

CEO Chen Eyes Boosting Indirect Sales

LAS VEGAS
At a time when many enterprise software vendors are looking to reinvent themselves as clones of hosted CRM vendor Salesforce.com Inc., Sybase CEO **John Chen** wants to turn his company into an old-school channel sales powerhouse. Chen expounded on that plan and other issues in an interview with *Computerworld* at Sybase's TechWave 2006 user conference last week. Excerpts follow:

In the second quarter, 46% of your revenue came through indirect sales. Will they make up the majority soon? When I started [at Sybase in 1998], 20% of our sales were indirect. I would love to be 75% indirect, 25% direct – though it's not our stated goal inside the company. Because what Sybase is really good at is building technologies. What we don't do as well is go into hand-to-hand combat with the big boys, who have more salespeople than my entire workforce.

We do want to keep our direct enterprise customers happy. To do so, we want to stay like a limo driver, not a taxi driver, meaning we don't meter you for everything. Oracle – they charge you for everything they do. Maybe they can get away with it. But we train our people not to say, "What's changed?" when a customer has a problem, as if it were automatically the customer's fault – even though nine times out of 10, they did change something.

But even Microsoft is getting a lot of pressure to explain how it will fit into an industry that is supposedly moving toward a software-as-a-service (SaaS) model. If that's happening, why focus on a channel model? The interesting thing about running a business is that nothing is absolute. Given what I think Sybase excels at, we can improve our margins and expand our reach by expanding channels today. And next year. And the year after that. Everything you mentioned about SaaS – there's no money in it now.

That's not to say we should fight a subscription-based model. The trick is when to get into it. We just bought a German company, Solonde. Their business is done completely through the Internet, aimed mostly at [small and midsize enterprises]. We like Solande's hosted model, though it's so small it's really just a dabble for us.

We're thinking of creating solutions which some telcos and others would want us to host. We have a lot of ideas kicking around that would expand our market and not intrude on our indirect [sales] efforts.

What about open-source? Our big customers – banks, governments, health care organizations – are very unlikely to use open-source during my professional lifetime for mission-critical needs.

When you're throwing trillions of dollars around the globe, you're not going to think, "Let's save a little money by going to open-source." That's Insanity. Though it's different for departmental solutions or internal systems like payroll.

You released your ASE 15 database at TechWave last year. Who's buying it? Three quarters are existing customers who bought it because of features like partitioning and encryption. And we'll have clustering available in the first half of next year. One quarter of ASE 15 customers are new. They're competitive wins, many of them on Linux.

– ERIC LAI

IBM

_INFRASTRUCTURE LOG

_DAY 12: No one can get real-time answers. No one can collaborate. Unmanaged public IM is a security nightmare.

_Gil brought in a "collaboration accelerator." I said it looks like a cannon. He said I had a small mind.

_DAY 14: The answer: IBM Lotus® Sametime® 7.5. It's not just IM and Web conferencing, it's an affordable platform for running the business in real time. It's encrypted. Has tons of features like VoIP and location awareness. And it works seamlessly with leading public IM networks. Everyone has real-time answers now.

_We've even recovered most of our employees.

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BRIEFS

Microsoft, DHS Urge Fast Action on Flaw

Microsoft Corp. issued 12 security updates for Windows and Office products, nine of them rated as critical. But the company said users should give priority to a fix for the Server Service technology in Windows because attackers have already started exploiting that vulnerability. The U.S. Department of Homeland Security issued a warning echoing Microsoft's advice, saying that exploits of the flaw "could impact government systems, private industry and critical infrastructure."

3Com CEO Resigns After Seven Months

Scott Murray has resigned as president and CEO of 3Com Corp. after just seven months on the job. The Marlboro, Mass.-based networking equipment vendor said Murray decided that he was spending too much time in China managing 3Com's joint venture with Huawei Technologies Co. 3Com said that Edgar Masri, chief operating officer at Redline Communications Inc., will replace Murray effective Aug. 18.

Cisco Has Higher Revenue, Flat Profit

Cisco Systems Inc. reported a 21% year-to-year jump in revenue for its fourth quarter, partly as a result of $582 million in sales from its acquisition of Scientific-Atlanta Inc. But Cisco said its profit for the quarter, which ended July 29, was flat because of employee stock-option expenses.

CISCO BY THE NUMBERS

	REVENUE	PROFIT
Q4 '06	$7.98B	$1.54B
Q4 '05	$6.58B	$1.54B

Short Takes

SPRINT NEXTEL CORP. said it will roll out a high-speed mobile network based on WiMax technology in the fourth quarter. . . . **LENOVO GROUP LTD.** released its first ThinkCentre PCs that are based on processors from Advanced Micro Devices Inc.

Capacity on Demand Retains Mainframe Users

IT execs say the ability to turn CPUs on and off can reduce computing costs

BY PATRICK THIBODEAU

FOR THE Charles Schwab Corp., the on/off processing capacity that IBM offers on its System z9 mainframes has become a key factor in keeping the financial services firm on that hardware platform.

Other mainframe users are also adopting IBM's capacity-on-demand feature, but their reasons for doing so vary widely. And some analysts cautioned that the savings promised by the capacity-on-demand approach can vary, depending partly on the deals that IT managers negotiate.

Earlier this year, Schwab started using an on/off mechanism to increase and decrease its mainframe computing capacity as needed. Jeremy Lamb, Schwab's vice president of mainframe services and engineering, said the capacity-on-demand arrangement is less expensive than it would be to buy all the processors needed to support the San Francisco-based brokerage's peak workloads.

Schwab upgraded to two System z9 machines last December. Each has 16 processors, and up to six of them can be turned on when demand for processing power spikes. Lamb said that Schwab's deal with IBM was structured so "there isn't that point where we should have just bought the capacity in the first place."

Continued Attraction

Schwab has always used mainframes to run its core brokerage applications, but the on/off capability "has enabled us to see the mainframe as continuing to be attractive for this kind of large-scale workload," Lamb added.

He wouldn't divulge any details about Schwab's contract. IBM doesn't disclose its mainframe pricing, and customers are barred from talking about their contract terms.

IBM began making the on/off processing capacity available on its mainframes three years ago with the release of its z900 systems. For some users, software costs also play a big role in decisions to adopt a capacity-on-demand model.

For example, Kenneth Kucera, senior vice president and head of the enterprise technology services division at First National Bank of Omaha, said that independent software vendors typically raise prices as a mainframe's MIPS processing capacity increases."With that permanent engine, you get killed by the ISVs," said Kucera, who decided to move off of Unix servers to the z9 partly because of the capacity-on-demand feature. First National completed the switch last year, he said.

The bank has almost 700,000 online customers who spike processing demand around paydays twice each month. Kucera said he didn't want a machine that ran at 60% capacity most of the time and carried 40% overhead for peak days. Instead, he runs his permanent processors at 80% to 85% of capacity.

Mike Chuba, an analyst at Gartner Inc., said the biggest potential benefit of capacity on demand is its effect on software costs. But, he added, "a lot depends on the contractual terms and conditions that [users] have negotiated" with IBM and with independent software vendors.

"At the end of the day, capacity on demand is an artificial pricing exercise," said Gordon Haff, an analyst at Illuminata Inc. in Nashua, N.H. Hardware vendors typically build enough of a financial margin into their systems to cover the cost of supplying extra CPU capacity, he added.

HOMA says that dropping a mainframe disaster recovery service saved $500,000 annually.

Bill Homa, CIO at Hannaford Bros. Co., a $5 billion grocer in Scarborough, Maine, purchased a z9 last year to go along with an existing z990. Hannaford's business operations don't have the variable demands of a financial services firm, but Homa said he is using capacity on demand for disaster recovery.

The two mainframes are 10 miles apart, and each has enough additional processing capacity available to handle the other's workloads in the event of a system failure. As a result, Homa has dropped a disaster recovery service that was costing the company $500,000 annually. ▸

Auto Distributor Grows Mainframe Data Fields

SOUTHEAST TOYOTA Distributors LLC is undertaking a mainframe IT project that typically gets little attention but can cause major headaches for Cobol users: field expansion.

Southeast Toyota, a subsidiary of JM Family Enterprises Inc. in Deerfield, Fla., that operates a network of franchised automotive dealerships in five states, has begun moving from IBM's VSAM prerelational database to its DB2 software. The company is also expanding the size of the data fields on its Cobol-based applications so they can accommodate extra digits needed because of its business growth.

Jeff Hall, vice president of the IT project management office at Southeast Toyota, said the homegrown applications were developed in the 1980s. Over the years, he said, the company has added functions, "and the next thing you know, you have spaghetti code."

Southeast Toyota recently hired BluePhoenix Solutions Ltd., a Herzliya, Israel-based software services firm, to move the mainframe systems onto DB2 and do the coding needed to expand its data fields. Hall said the work is scheduled to be completed next year but wouldn't disclose the cost of the project.

The adoption of a relational database will enable Southeast Toyota to add Java- and .Net-based applications as well as new functionality, such as improved business analytics capabilities, Hall said.

The company had considered starting from scratch and buying packaged applications, but the cost of building extensions and customizing the software was deemed to be too expensive, according to Hall.

William Ulrich, a consultant at Tactical Strategy Group Inc. in Soquel, Calif., said expanding data fields can be cumbersome and costly because it often involves numerous interconnected applications and files. Many programmers try to build work-arounds, he said. But Ulrich believes that problems with data fields are one reason why large IT projects can sometimes fail or have cost overruns. Often, he said, "the field is too short, too long or not properly defined to meet business requirements."

Hall sees the ongoing effort at Southeast Toyota as the underpinning of a multiyear strategy for incremental application upgrades. That strategy is partly motivated by the gradually shrinking pool of Cobol programmers, he said.

For now, Hall's staffers have enough Cobol skills to handle mainframe application development. But, he said, "Cobol is not what's being taught in college anymore." There will be a point "where those skills are fewer and fewer," he added, predicting that 10 years from now, "we're probably in trouble."

– PATRICK THIBODEAU

Today's mobile workforce, with its always-on need for information, demands a notebook computer that will stand up to the rigors of today's mobile enterprise. Businesses rely on their data, and professionals need to rely on their notebook computers for 24 x 7 business continuity. Among notebook users, durability ranks atop battery life for desired characteristics. According to recent research, U.S companies spend well in excess of $1 billion annually to repair and replace notebooks. With an average of 1,500 notebooks deployed in a typical medium to large enterprise, maintaining and replacing notebooks can have a real impact not only on the bottom line, but on the best use of a company's IT staff and assets. As a critical component of an enterprise's IT infrastructure, it's imperative that downtime is minimized. But with IT decision-makers under increasing pressure to align IT assets with business goals, less time and money spent on repair and maintenance means more time, staff and money freed up for innovation. Longtime leading notebook maker Toshiba exemplifies the commitment to quality and durability today's IT decision-makers demand. Toshiba's high-quality notebook lines, such as the Tecra, featuring Intel® technology, have long set the standard for durability and reliability. And recent independent testing reconfirms the status of Toshiba as the pre-eminent maker of durable, road-ready notebooks.

Toshiba has teamed with IDG, IDC and *PCWorld* magazine to put the Tecra through its paces in an evaluation designed to test Toshiba's market-leading commitment to durability. The results – and much more – are now available online.

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Users See Good, Bad in Brocade's McData Buy

IT executives, analysts cite overlaps in vendors' storage switch product lines

BY SHARON FISHER

IT managers last week said that Brocade Communications Systems Inc.'s planned buyout of storage switch rival McData Corp. has them concerned that it may mean the end of life for some of the products they use.

A Brocade executive said the two companies plan to tightly integrate and then converge their product lines in little more than a year's time. But some users and analysts noted that there is a substantial overlap between the offerings of the two switch vendors.

Mike Campbell, director of PC systems and support at University of New Mexico Hospitals in Albuquerque, chose McData equipment over Brocade switches in March. Campbell said he was surprised by last week's buyout deal. "We bought McData [products] because we thought the company had good technology, so we're going to be concerned about what Brocade might do there," he said.

McData announced late last month that the Durham District School Board in Whitby, Ontario, had consolidated its direct-attached storage devices onto a network built around the company's director-class switches. Wilson Chan, manager of technical services for the school board, said he sees both advantages and disadvantages to the acquisition.

The combination of Brocade and McData likely will spur "bigger, better services" as well as stronger products, Chan said. On the other hand, he said he's worried that Brocade will drop some of McData's products.

Arun Taneja, founder of Taneja Group Inc., a research firm in Hopkinton, Mass., said the biggest challenge facing Brocade and McData is the need to rationalize the many overlaps in their product lines. "Someone's going to have to play Solomon," Taneja said. "Someone's going to have to make the call, 'You live, and you die.' "

Tom Buiocchi, Brocade's vice president of marketing, said the planned acquisition would benefit users by providing them initially with interoperability between switches and then with a converged hardware platform and common management tools.

User Loyalty

The companies have yet to determine the criteria that will be used to decide which of their respective products will continue to be offered, Buiocchi said. But volume and user loyalty will play a part. "As long as [users] want to buy those products, they're going to get them," he said, adding that Brocade may continue to offer competing technologies in order to retain customers.

San Jose-based Brocade agreed to buy Broomfield, Colo.-based McData in a stock-swap transaction valued at $713 million under current prices. Brocade expects to complete the deal after its fiscal first quarter, which ends Jan. 30.

Rich Ward, director of technical services at Philadelphia Stock Exchange Inc., said he isn't particularly concerned about the acquisition. However, he noted that as a Brocade user, the transition will affect him less than it will McData users.

Scott Saunders, director of MIS at Ion Media Networks Inc. in West Palm Beach, Fla., is another Brocade user. He said a possible advantage to the buyout is that users could end up with more interoperability between different Fibre Channel switches.

But Saunders said he's worried that Brocade could mismanage the acquisition and lose focus on customers, product quality and technical advancements.

Saunders is in the process of budgeting for a new disaster recovery site for Ion, which operates a network of 60 television stations. He said that the McData buyout could limit his product choices — although he's satisfied with the Brocade switches he now uses. ▸

Brocade's Buyout Plan

- **The deal is expected to be completed by Jan. 30,** with Brocade retaining its name and headquarters.
- **McData shareholders will own about 30%** of Brocade's stock after the acquisition.
- **Company officials said the buyout should yield annual savings of $100 million,** partly through layoffs.
- **Brocade's management team will remain in place,** and McData CEO John Kelley will become an "adviser."

Blue Cross Compiles Health Care Database

$45 million BI project to woo large businesses

BY HEATHER HAVENSTEIN

Earlier this month, the national Blue Cross and Blue Shield Association announced an initiative to compile claims information from 79 million patients into a database that can be shared with 20 participating Blue Cross plans.

The Blue Health Intelligence (BHI) project, which was unveiled on Aug. 4, is designed so participating insurance companies can access aggregated claims information from the database to obtain feedback about what is driving health care costs. That information is something the employer clients at Blue Cross are demanding to see, said David Plocher, chief medical officer of Blue Cross and Blue Shield of Minnesota.

"This is a competitive advantage, as we want to get more business from large and multistate self-insured employers," said Plocher, who is also the senior vice president of informatics for the association's BHI project. "This tool allows us to more accurately diagnose the causes of health care costs."

Plocher also claimed that it will do so "at a level of precision no one else can do."

As a result, he added, employers will be able to compare their health care costs with those of other companies in their own industries in other parts of the country.

The database, which has cost $45 million over the past two years to build and will be operational by early next year, will be operated by El Segundo, Calif.-based Computer Sciences Corp. on a central server in Delaware, Plocher said.

The participating plans will send their claims data — stripped of any identifying information — to that central server. When they want to get analysis of data from the other participating plans, they will submit a request to a programmer, who will extract the data based on varying parameters such as employer name, geographic location or disease types, Plocher added.

The BHI already has a common data dictionary for the regional insurers to use when reporting their information to the database so "there will be no inaccuracy introduced by that sort of variation," according to Plocher.

Putting Data Into Context

Kyle Marshall, a spokesman for Blue Cross and Blue Shield of North Carolina, which is participating in the BHI project, said that until now, the company had limited access to claims data from other Blue Cross/Blue Shield plans nationwide for analysis.

"If an employer group sees that its own claims data shows it has a lot of employees with claims for diabetes . . . how do they put that into context? What can they do with that data?" Marshall said.

Using BHI, that information can be mined with other data through a common tool, he said.

For example, he pointed out that a furniture manufacturer could compare its claims data for a particular health problem with that of other furniture manufacturers or other similarly sized companies.

Scott Tiazkun, an analyst at IDC, said the BHI project is significant for several reasons — most notably its size. By compiling claims information on 79 million patients, the database will be much larger than those envisioned by regional health information organizations, he said.

"From a data mining and disease management perspective, a pool of patients and data information this large could be a great opportunity," Tiazkun said.

The BHI system, he noted, "could apply analytic applications to the data to determine disease trends among various populations, like smokers, nonsmokers, people over 50," which ultimately could lead to more effective treatment. ▸

JUST THE FACTS

BHI Breakdown

The Blue Health Intelligence database

- Three plans – representing 13 million members – have begun using the database.
- The remaining 17 plans are now loading data into BHI and will begin testing it this fall.
- By January or February 2007, the database should be fully operational.

BRIEFS

AOL Probes Release Of Data on Searches

AOL LLC confirmed that it publicly released details of Internet searches done over a period of three months by about 658,000 users. The data was made available for use by academic researchers and didn't include any personal information, an AOL spokesman said. But he described the release as "a screw-up," and said AOL is investigating how the data was posted online without undergoing required privacy reviews.

Microsoft to Bundle Speech Technology

At the SpeechTek 2006 conference in New York, Microsoft Corp. announced plans to integrate Speech Server 2007, the next version of its voice-response software, into the Office Communications Server 2007 release due in next year's third quarter. Microsoft said it will continue to sell the existing Speech Server 2004 until the end of next year and support its users through 2014.

IBM Tests Tool for Verifying Caller IDs

In advance of SpeechTek, an IBM executive said the vendor is testing speech-recognition technology that can verify the identities of telephone callers. Speakers would provide voice samples, which a company could use to authenticate them as customers. Brian Garr, IBM's director of enterprise speech, said the technology should find its way into products within the next year.

Short Takes

ROD MASSEY, who oversaw a rollout of SAP AG's ERP software as CIO of Clark County in Nevada, was named to head SAP's global public-sector business unit. . . . Detroit-based **DTE ENERGY CO.** said its IT unit has achieved Level 2 and Level 3 certifications under the Software Engineering Institute's Capability Maturity Model Integration program.

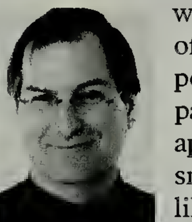
[ON THE MARK | HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL]

PuRRRR.
Did You Hear THAT?
HEAR WHAT?
Nice Kitty.
Hmmmm... another fiat.
VISTA
Sssss

MATTHEW FAULKNER

Jobs Jabs Next Windows . . .

. . . release for being tardy and derivative. At Apple Computer Inc.'s Worldwide Developers Conference in San Francisco last week, CEO Steve Jobs heaped sarcasm on Microsoft Corp.'s effort to finish development of Windows Vista, its next client-level operating system. Jobs sneered that despite Microsoft's $5 billion annual R&D budget, the operating system market leader hasn't been able to ship a successor to Windows XP in nearly five years. During the same period, he noted, Apple has shipped five versions of Mac OS X, and it previewed a sixth, called Leopard, at last week's conference. Worse, Jobs cracked, Microsoft has spent most of its time copying features and technology from his company and Google Inc. "I guess money isn't everything," he said.



JOBS taunts Microsoft's operating system team.

Indeed, Apple claims that Leopard, which is scheduled to ship next spring, puts Microsoft on the innovation defensive yet again. Brian Croll, senior director of Mac OS X product marketing, challenged Microsoft to match numerous features that will be standard in Leopard.

"Take 64-bit compatibility," Croll said. He argued that some 32-bit Windows applications — say, drivers in Fibre Channel adapter cards — will need to be updated to work with 64-bit versions of Vista. Leopard, he pointed out, is compatible with all 32-bit applications, including small but critical ones like drivers, and with newer, 64-bit apps.

Croll also crowed about Leopard features such as Time Machine (for automatic backups), Spaces (task-specific applications tied together in a single window view) and iChat's advanced videoconferencing capabilities. "There's nothing like it in Vista," he said. Unless, of course, Microsoft plays copycat again.

Stronger security can't wait for . . .

. . . either Leopard or Vista. Whether you're a Mac fanatic or a Windows bigot, PGP Corp. plans to ship its PGP Desktop 9.5 software for your systems before year's end, says Stephan Somogyi, director of products at the Palo Alto, Calif.-based company. New for Macintosh users will be disk encryption for nonboot volumes, a capability that can be used to encrypt data on, say, portable USB thumb drives. The drives can then be used to swap data among Windows and Mac machines that are running PGP's security software. One upcoming challenge for PGP, Somogyi observes, is to perform full disk encryption on computers that offer a dual-boot option to users. For example, Leopard will come standard with Apple's Boot Camp technology, which lets users start up their machines in either Mac or Windows mode. PGP's engineers are working on the problem, says Somogyi. But he gave no estimate on when they will come up with a solution.

0.25 sextillion: Years needed to break an 128-bit encrypted file as of 2005, says Yankee Group.

Insiders, outsiders – everyone is a . . .

. . . potential danger to defend against. Two Silicon Valley vendors are readying security appliances designed to protect your data and systems from malcontents armed with malware who have maliciousness on their minds.

Jon Clay, a product marketing manager at Trend Micro Inc., says the InterScan Gateway Security appliance being released this week by the Cupertino, Calif.-based vendor is aimed at companies with 100 to 1,000 end users. InterScan monitors HTTP, POP3, FTP and other Internet protocols to ensure that the data they ferry isn't harboring any viruses, spyware or spam. IT managers can apply content filtering to outbound messages and restrict end-user access to external URLs. Later this year, you'll be able to manage multiple appliances from a central console, Clay says. InterScan comes in six models; prices start at $4,490.

Jeff Brainard, director of marketing at Reconnex Corp. in Mountain View, Calif., wants you to worry as much — or maybe more — about insider threats as you do about external ones. "Companies are bleeding from the inside out," he says. Faizel Lakhani, Reconnex's vice president of marketing, adds that the hard thing about protecting a company from rogue insiders is identifying what information is at risk. Like many other security vendors, Reconnex says it offers an appliance that can stop credit card numbers and other vital data from leaking out. But, Lakhani asks, how do you prevent someone from improperly divulging financial information, such as earnings-per-share figures that are often simple one- or two-digit numbers, in an e-mail or instant message? You probably can't, he admits. But with iGuard, he claims, you can go back in time to determine who sent out messages with such data. That's because iGuard indexes and stores all your outbound data — up to 4TB, with additional network-attached storage available — for later analysis. In September, Reconnex plans to ship Version 5.0 of iGuard's embedded software, which will let multiple appliances be centrally managed through a single console. Pricing for iGuard starts at $65,000. ▸

TREND MICRO claims its InterScan appliance bars the door to malware.

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GLOBAL DISPATCHES

An International
IT News Digest

Telstra Pulls Plans for Broadband Network

MELBOURNE, AUSTRALIA

AUSTRALIA'S LARGEST telecommunications company last week said it was scrapping plans for a national high-speed broadband network after reaching an impasse with regulators over how to charge rival vendors for access.

Melbourne-based Telstra Corp. had planned to invest $4 billion Australian ($3.06 billion U.S.) in the so-called fiber-to-the-node network, which was slated to initially cover Australia's five largest cities and then be expanded to the rest of the nation.

But the company said it ended discussions with government regulators because they failed to understand the cost of building out the network to Australia's vast rural areas. Telstra CEO Solomon Trujillo had threatened such a move last month.

In a statement last week, the Australian Competition and Consumer Commission said it was "perplexed" by Telstra's decision because it had agreed in principle that the company should be entitled to recover the full cost of building the broadband network.

■ DAN NYSTEDT, IDG NEWS SERVICE

Europe to Bear Brunt Of CSC's Job Cutbacks

EL SEGUNDO, CALIF.

COMPUTER SCIENCES CORP. last week provided details about its plan to shed 5,000 workers over the next two years, saying that about 2,650 of the job cuts will be in Europe.

In a filing to the U.S. Securities and Exchange Commission, CSC said that 1,800 workers will be dismissed in North America and that 550 will be let go in Australia and Asia. The El Segundo-based IT services vendor added that the cutbacks will be offset by the hiring of 2,000 employees "in certain lower-cost regions."

CSC reported a loss of $55.3 million on revenue of $3.6 billion in its fiscal first quarter, which ended June 30. The company said it hopes to negotiate voluntary termination agreements at its European operations, but involuntary cutbacks may also be required in some countries.

■ LINDA ROSENCRANCE

GLOBAL FACT

348M

The projected number of mobile network subscribers in India by the end of 2010, up from just over 100 million now.

SOURCE: THE DIFFUSION GROUP INC., PLANO, TEXAS

Australia Lags in Use Of E-health Technology

SYDNEY, AUSTRALIA

MOST IT work in the Australian health care industry has been done in isolation, leaving no standard identifiers for individuals and health care providers, according to the CEO of a government-funded company charged with developing better methods of electronically collecting and exchanging health data.

NEHTA Ltd., which became a not-for-profit company last year after being formed in mid-2004 as the National E-Health Transition Authority, recently completed its first profile of the health data that is available on a national basis. CEO Ian Reinecke said there is a lack of standardization, interoperability and understanding of the workflow needed to effectively exchange data.

"Essentially, there is a whole range of unnecessary costs at all stages of the process," Reinecke said. He added that Australia has been a slow adopter of IT within health care compared with countries such as the U.S. and the U.K.

■ MICHAEL CRAWFORD, COMPUTERWORLD AUSTRALIA

Compiled by Craig Stedman.

Briefly Noted

The Oracle Applications Users Group has opened an office in Brussels that will support its members in Europe, the Middle East and Africa. The Atlanta-based OAUG said the new office is designed to raise its visibility among users of Oracle Corp.'s business applications in those regions and strengthen its relations with the software vendor's local operations.

Achievo Corp. in San Ramon, Calif., said it has signed a deal to acquire Beijing Beifang Xinyu Information Technology Co., a Beijing-based vendor that does software development and IT services work for Japanese companies. Financial terms weren't disclosed. The deal continues a string of acquisitions in China by Achievo, which focuses on software development outsourcing.

■ SUMNER LEMON, IDG NEWS SERVICE

The Sage Group PLC said it has agreed to buy a unit of Elmwood Park, N.J.-based Emdeon Inc. that develops software for managing doctors' offices. Sage, based in Newcastle Upon Tyne, England, will pay $565 million for the Emdeon Practice Services unit. The deal is expected to close next month.

■ NANCY GOHRING, IDG NEWS SERVICE

Aggregation Tool Cuts Wait for BI Data at Publisher

BY HEATHER HAVENSTEIN

Until a few months ago, users at publisher Simon & Schuster Inc. had to wait as long as a half-hour for results from business intelligence queries about sales figures.

The New York-based publishing house was facing a problem that is becoming more prevalent as companies open up access to increasing numbers of business users: balancing the growing demand for data access with the strain put on BI tools and databases. In response, it installed a data aggregation tool to speed up data access.

The 50 users of Business Objects SA's enterprise reporting tools at Simon & Schuster were demanding ever-more-detailed reports from the company's growing data warehouse, said Stuart Mowat, vice president of information systems and technology. Because of the prolonged query response times that resulted, users were increasingly asking business analysts to run the reports.

To tackle the problem, Simon & Schuster began to implement a data aggregation tool from HyperRoll Inc. six months ago. Mowat said the tool integrates with the Business Objects software and processes query requests from it. Using data compression and aggregation algorithms to precompute a fraction of aggregated values, HyperRoll has improved query performance at the publisher in several areas. For example, response times to sales force queries have been reduced from 16 minutes to one second, and those for regional sales queries have decreased from 11 minutes to one second.

"The speed of the reports coming back is obviously the most important advantage," said Mowat.

Next month, the company will migrate from an Oracle Corp. database to Microsoft Corp.'s SQL Server 2005, and it plans to use HyperRoll with SQL Server. In addition, Simon & Schuster plans to eventually expand the use of the data aggregation tool to all new areas in which it plans to analyze aggregated data, Mowat said.

In May, the company began using HyperRoll with the sales analysis system that it built internally using Microsoft Visual Basic and .Net. That system performs aggregated analysis on combined retailer and point-of-sale data.

"[It] was not usable before because of response times," Mowat said. "We were getting response times of a minute and a half, which for an online system was unacceptable." With HyperRoll, response times decreased to five seconds, he said.

The company is exploring the possibility of using HyperRoll to integrate historical information in its data warehouse with data from transactional systems to provide users with more up-to-date BI reports.

"A lot of our [workforce] is becoming less satisfied with a data warehouse that shows data updated as of the close of business [the day before]," Mowat said. "They are looking more and more for as close to real time as we can get it."

Bill Hostmann, an analyst at Gartner Inc., said companies that roll out BI enterprisewide often encounter performance problems. Often, they constrain use rather than adjust their technology to accommodate the challenges, he said.

"When you go and tell the users to stop hitting the system," Hostmann said, "you are basically telling them to stop asking the questions about the information you need to run the business." ▸

> We were getting response times of a minute and a half, which for an online system was unacceptable.
>
> STUART MOWAT,

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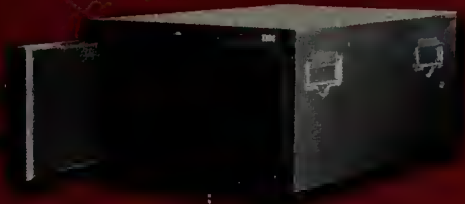

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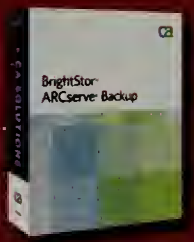

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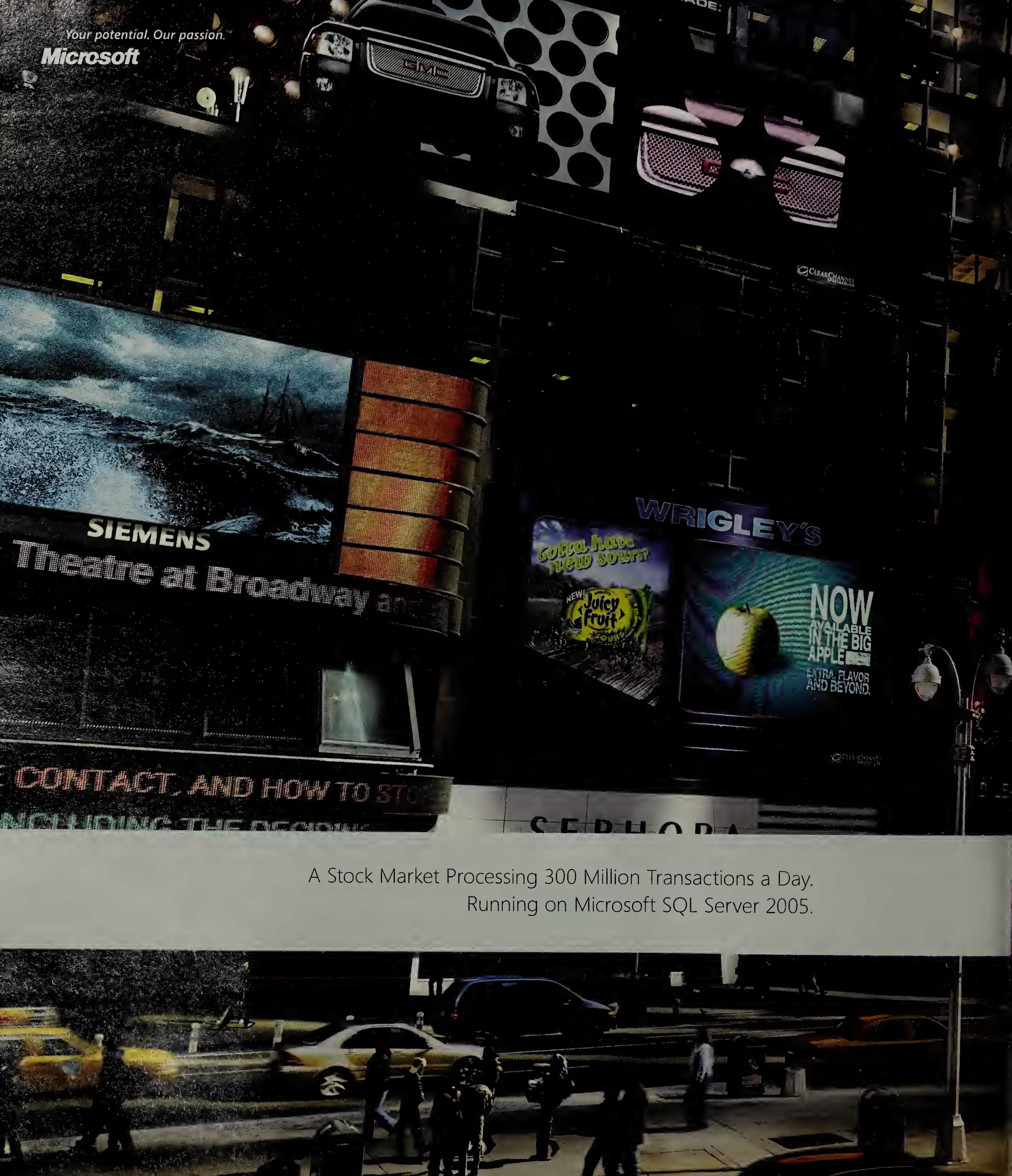

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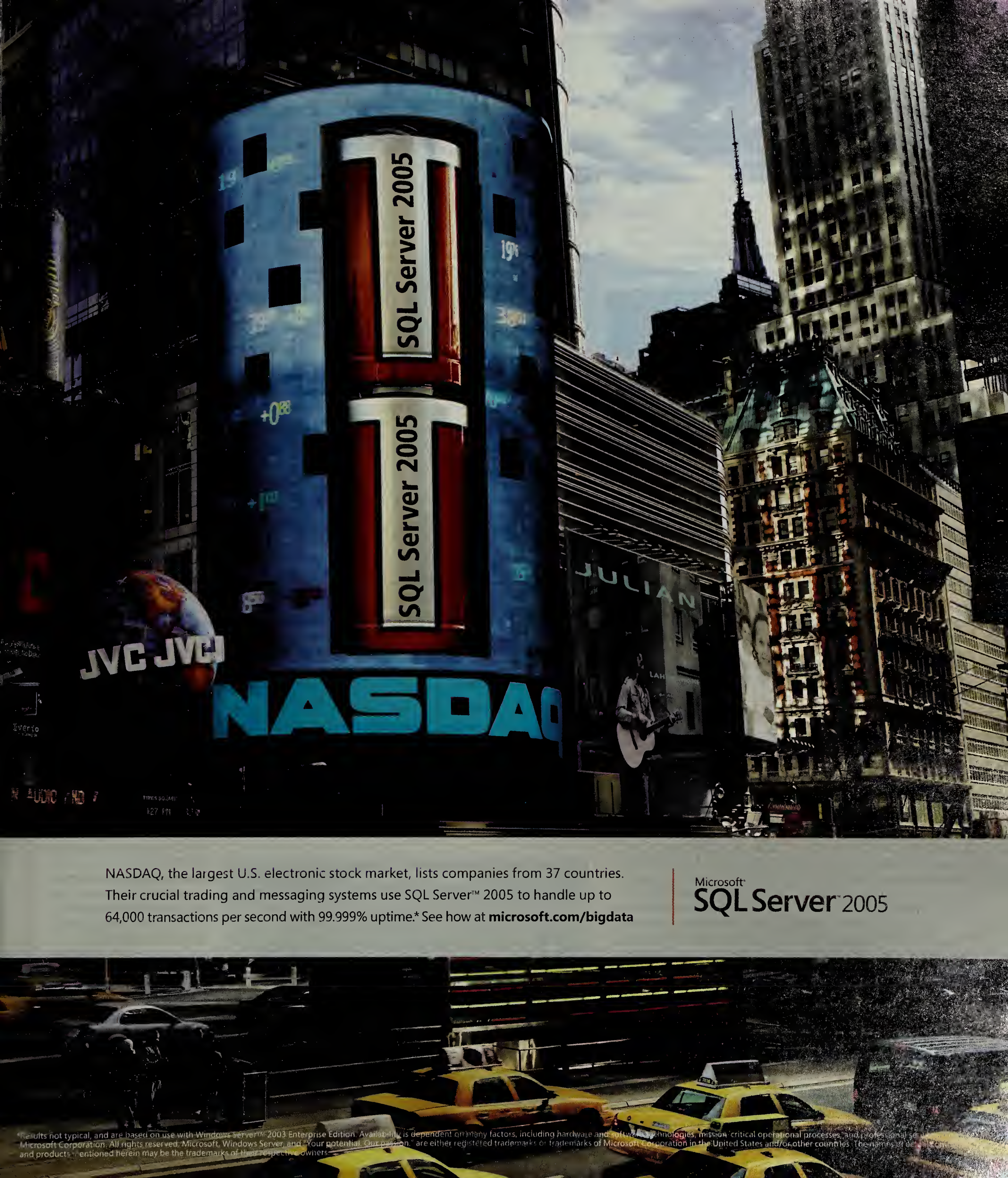

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Continued from page 1

Gen 2 RFID

cording to Simon Langford, the Bentonville, Ark.-based company's director of global RFID strategy and transportation systems.

Langford said the RFID readers in place at Wal-Mart needed only a firmware upgrade to work with Gen 2 tags.

Similarly, retailer Metro Group rolled out some Gen 2 systems last month. And the Pentagon has set a provisional sunset date of Sept. 30 to phase out its first-generation RFID technology, although a spokeswoman said that the DOD has yet to fix an exact deadline.

One upbeat Gen 2 adopter is Beaver Street Fisheries Inc., a Jacksonville, Fla.-based seafood distributor that supplies Wal-Mart. The company went live with a Gen 2-based system in June. The new tags have increased the company's read rates from the low 90% range to closer to 100%, according to CIO Howard Stockdale.

However, there are some limits to what the company can do with the Gen 2 technology, Stockdale said. For instance, Beaver Street has Gen 1 scanners from Matrix Systems Inc., and although they can read the new tags, they can't write to the Gen 2 chips or use features that let scanners work well together in close proximity. Stockdale said Beaver Street has added newer-generation ALR-9800 readers from Alien Technology Corp., giving the company a blended RFID environment with mixed capabilities.

Stockdale said Gen 2 will also require updating of his company's homegrown ERP and warehouse management systems to handle new data that can be captured by the second-generation tags.

Overall, Gen 2 costs less to implement than the earlier technology did, according to Stockdale. Beaver Street initially paid roughly 11 cents for each Gen 2 tag, he said, noting that the company paid 31 cents for first-generation tags. The new scanners cost about $300 less than prior-generation ones did, Stockdale said.

The cost of a Gen 2 pilot facility retrofit was about $15,000 for Unilever North America, said Simon Ellis, supply chain futurist at the consumer packaged goods manufacturer, which is a major supplier to Wal-Mart. "Not too bad," he observed.

Unilever switched to Gen 2 in July to comply with EPCglobal Inc. standards, Ellis said. Although the technology is still relatively new to Unilever, its read rates have improved by 10%, he said, indicating that Gen 2 products are "quite a bit more robust" than first-generation devices were. Nevertheless, "RFID is still immature," Ellis added.

According to an e-mail from a Metro Group spokesman, the Dusseldorf, Germany-based retailer's read accuracy rates have risen since it began using Gen 2 tags. However, he said it was too early to pinpoint any concrete improvements from the new technology.

"We are not aiming at a quick amortization [of the cost of RFID] but rather at the innovation leadership in the retail sector and a healthy margin regarding the experience with new technologies," the spokesman wrote.

By improving read rates and following EPCglobal standards, Gen 2 won't become obsolete as quickly as first-generation RFID systems have, predicted industry analyst John Fontanella in late June. At the time, Fontanella worked at Boston-based Aberdeen Group Inc., although he has since left the consulting firm.

According to a recently released Aberdeen report on RFID adoption written by Fontanella (see box), in a survey the firm conducted, 75% of the respondents had better read rates using Gen 2 technology. ▸

JUST THE FACTS

Gen 2 Helps Polish RFID

According to a report released by Aberdeen Group in June:

- Gen 2 technology could help enable 100% read rates for RFID sites.
- 50% of survey respondents said that between two and 10 of their manufacturing sites would deploy RFID by 2008.
- Reliability was deemed more important than cost in considering RFID.

EMC Links Content, Security Software From Acquisitions

Aim is to give users more control over data, even outside corporate firewalls

BY SHARON FISHER

EMC Corp. said last week that it has integrated content and digital rights management software from two of its acquisitions in an effort to give companies better control over their data, even if the information is sent to someone outside the corporate firewall.

EMC released a new version of its Records Manager software, which was developed by Documentum Inc. before it was acquired by the storage vendor in late 2003. EMC also added a package combining content management capabilities with digital rights management technology that it obtained through its acquisition of Authentica Inc. in February.

Records Manager 5.3 and the Information Rights Management (IRM) Services offering can be used together to apply security protections and permissions to unstructured data stored in a Documentum repository, said Lubor Ptacek, a marketing director at EMC.

Peter Weis, CIO at Matson Navigation Co. in Oakland, Calif., said he would be interested in the new functionality for managing financial documents, especially when his company starts offering shipping services from China.

Matson is a cargo shipper and broker and has annual revenue of about $1.5 billion. Weis said the company is deploying Documentum products throughout its operations, embedding the software within its accounts payable system and in a new order management system for its truck and rail business.

Ptacek said the unified offering of Records Manager and IRM Services is aimed at companies that not only store data for regulatory compliance purposes but also continue to use the information and want to ensure that it is destroyed when the required retention period is over.

IRM Services enables content owners to control access to data and how it is used, while maintaining a full audit trail of document activity, EMC said. Meanwhile, Records Manager 5.3 was built using a service-oriented architecture, making it more modular and easier to integrate with other applications, said Ptacek.

Corporate Express Inc. in Broomfield, Colo., has been using Documentum technology for 10 years, according to Bill Morey, director of records management. The $4.6 billion distributor of office and computer products is now rolling it out enterprisewide for managing all content on desktop PCs — primarily for compliance reasons.

Morey said he could see his company adding a product like IRM Services in the future. "Further down the road, we'll be looking at solutions such as IRM, where you can wrap security requirements and controls around content," he said.

Every major vendor involved in content management is at least thinking about how to incorporate digital rights management technology into their products, said Melissa Webster, an analyst at IDC in Framingham, Mass.

As an example of how the software could be used, Webster said that if a product design company sent information about a planned new product to a half-dozen prospective manufacturers, the integrated content and digital rights management tools could ensure that the losing bidders wouldn't be able to make knockoffs based on the original design. ▸

How It Works

EMC said its IRM Services software lets companies control how data is accessed and used.

1. The software encrypts data when a worker sends the information to another user.
2. When the recipient tries to access the data, a request is sent back to IRM Services.
3. If the recipient is authorized to see the data, the software decrypts the information.
4. Additional controls can be used to prevent data from being forwarded, printed or modified.
5. If authorized access is removed, the software will prevent data from being decrypted.

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Ohio U. Axes Two IT Execs After Security Breaches

Says they didn't do enough to protect systems; workers insist firings unjust

BY TODD R. WEISS

OHIO UNIVERSITY this month fired two top IT managers who had been suspended in June following a string of five data security breaches, saying that they should have done more to secure the school's systems.

But the two IT officials aren't taking their dismissals lying down. One said that he doesn't deserve to be blamed for the security snafus, which were discovered in April and May. An attorney for the other worker described the firings as a coverup by OU officials and said that his client plans to try to reclaim his job.

Athens, Ohio-based OU announced on Aug. 3 that it had dismissed Tom Reid, its director of communication network services, and Todd Acheson, the school's manager of Internet and systems. The firings came three weeks after CIO William Sams said that he would resign once a replacement is found, and one week after Sams and OU Provost Kathy Krendl announced a 20-point action plan designed to improve the university's IT organization and its information security capabilities.

In similar but not identical termination letters to Reid and Acheson, Sams wrote, "It has become clear from my analysis that you clearly should have foreseen the risks and consequences of IT security breaches, and also should have taken a much more responsible role in securing the wide-area and local-area networks under your responsibility."

Reid, who had worked at OU for 22 years, shot back in a statement that he e-mailed to *Computerworld*. "By firing me, the university is wrongfully damaging my credibility and professional standing on a global scale," Reid wrote. "To single me out as being responsible for the recent data thefts is simply not supported by the facts or by industry-leading advice on securing information at large, research-intensive universities."

A 'Disgusting Coverup'

Reid was also critical of an outside consultant's report on the security breaches, claiming that it contained errors and that supporting documentation was destroyed, leaving him unable to review the information used to prepare the report. The destruction of such records violates Ohio's public-records laws, he said.

Frederick Gittes, an attorney in Columbus, Ohio, who is representing Acheson, called the firings "a disgraceful, disgusting coverup" on the part of university officials. "The computers hacked at OU were not in Acheson's area of responsibility, yet somehow he is being blamed," Gittes said. "The same is true of Tom Reid."

Acheson will file an administrative appeal of his firing to try to get his job back, Gittes said. He and Acheson are also exploring possible legal action. "These two guys' careers are being trashed, and it is totally ridiculous," Gittes said.

In response to Reid's comments, Sams confirmed last week that the consultant who wrote the report on the breaches destroyed the documentation he collected. Sams also acknowledged that the destruction of the notes could have violated state law. But, he said, the consultant "was not aware of the possibility that his notes might be needed."

OU is changing its consulting contracts to indicate that such notes must be kept, Sams said. He added that the firings resulted from a lack of performance by Reid and Acheson and weren't "substantially based" on the report.

At a July 28 press conference, Sams said the 20 initiatives in OU's new IT plan are scheduled to be completed over the next nine to 12 months and likely will cost $5.5 million to $8 million. The steps include a half-dozen technology investments, such as the installation of a network-perimeter firewall and the development of an enterprise-wide security architecture with multiple tiers of defenses.

The plan also includes a series of procedural and organizational changes, including a restructuring of the school's central IT group. ▸

FIRING LINES

> It has become clear from my analysis that you . . . should have taken a much more responsible role in securing the wide-area and local-area networks under your responsibility.

FROM THE TERMINATION LETTERS SENT BY OHIO UNIVERSITY CIO **WILLIAM SAMS** TO IT MANAGERS **TOM REID** AND **TODD ACHESON**

> To single me out as being responsible for the recent data thefts is simply not supported by the facts.

FROM A STATEMENT ISSUED BY **REID** AFTER HIS FIRING

VA Says Another Computer Is Missing

BY LINDA ROSENCRANCE AND PATRICK THIBODEAU

The U.S. Department of Veterans Affairs last week announced that a desktop PC containing personal information on about 38,000 veterans was missing from an office of Unisys Corp., which had the data as part of its role as a subcontractor to the agency.

The incident followed the theft of a laptop and external hard drive that held data on 26.5 million veterans and active-duty military personnel from a VA employee's home in early May. Last week's disclosure prompted a new round of calls for the resignation of VA Secretary R. James Nicholson from federal lawmakers, including Senate Minority Leader Harry Reid (D-Nev.).

Nicholson has vowed to make the VA "a gold standard" for information security among government agencies. But in a statement last week, he said the incident at Unisys shows anew that improving the security of the agency's data isn't a simple task.

Complex Work Ahead

The agency "is making progress in efforts to reform its information technology and cybersecurity procedures, but this report of a missing computer at a subcontractor's secure building underscores the complexity of the work ahead as we establish [the] VA as a leader in data and information security," Nicholson said.

Unisys, which assists in insurance collection for the VA's medical centers in Pittsburgh and Philadelphia, notified the agency on Aug. 3 that the computer was missing from its Reston, Va., office. The VA said it immediately sent a team to Unisys to help search for the missing system and to determine exactly what information it contained.

The agency, which disclosed the incident last Monday, said it believes the data stored on the missing PC is limited to veterans who received treatment at the two Pennsylvania medical centers during the past four years. According to the VA, the desktop system may have contained the names, addresses, Social Security numbers and dates of birth of patients, plus the names of their insurance companies, billing information, their dates of military service and claims data that may include medical information.

GETTY IMAGES

NICHOLSON: Missing system "underscores the complexity" of improving VA's data security.

Unisys spokeswoman Lisa Meyers said the IT vendor and services provider isn't certain that the PC was stolen. Company officials aren't ruling out the possibility that the system has simply been misplaced. But, she said, "we can't find it. It's missing from where it's regularly housed, and the building has been swept several times."

Unisys is continuing to review security tapes, records and logs and conduct interviews, Meyers added. She said the data stored on the PC wasn't encrypted, nor was there a requirement for that under the company's contract with the VA.

The VA said it notified the FBI and the U.S. Department of Homeland Security's Computer Emergency Response Team about the missing system, as well as appropriate congressional committees and lawmakers.

The loss of the PC was disclosed two days after police in Maryland announced the arrests of two 19-year-old men accused of stealing the laptop from the VA worker's home in May. Charges are pending against a third suspect, a juvenile being held on another charge. ▸

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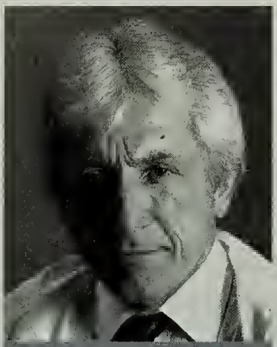
DON TENNANT

Wincing and Grimacing

YOU KNOW HOW you wince when you realize you've messed up? Occasionally, the wince morphs into a grimace when the extent to which you've blown it dawns on you. I've been doing some grimacing here.

I've always told my kids that when you goof up, you need to acknowledge it, make amends for it, learn from it and move on. I guess I'd better practice what I preach. So here goes.



DON TENNANT is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com**.

Three weeks ago, I wrote an editorial titled "Leaders and Followers," in which I characterized Advanced Micro Devices as having a corporate culture that's driven by a desire to make the world a better place. I contrasted that with the corporate culture of AMD's rival Intel, which I characterized as fat, happy and oblivious to what's even needed to improve things around the world.

The first indication I'd blown it came in the form of an e-mail from an Intel employee in Acton, Mass., who told me that Intel recently supported him in working with the CIO of The TJX Companies to donate media equipment to a nearby school for mentally handicapped children and young adults. The employee, who said he'd been working at Intel for six years after an 18-year stint at IBM, characterized Intel as "an amazing company" and "a great corporate citizen."

What drew the first wince, though, was speaking to Dave Stangis, director of corporate responsibility at Intel, and learning about things like Intel being perpetually high on the list of socially conscious investment funds that invest only in companies with a proven track record of social responsibility. The wincing got worse after I did a little more research on my own.

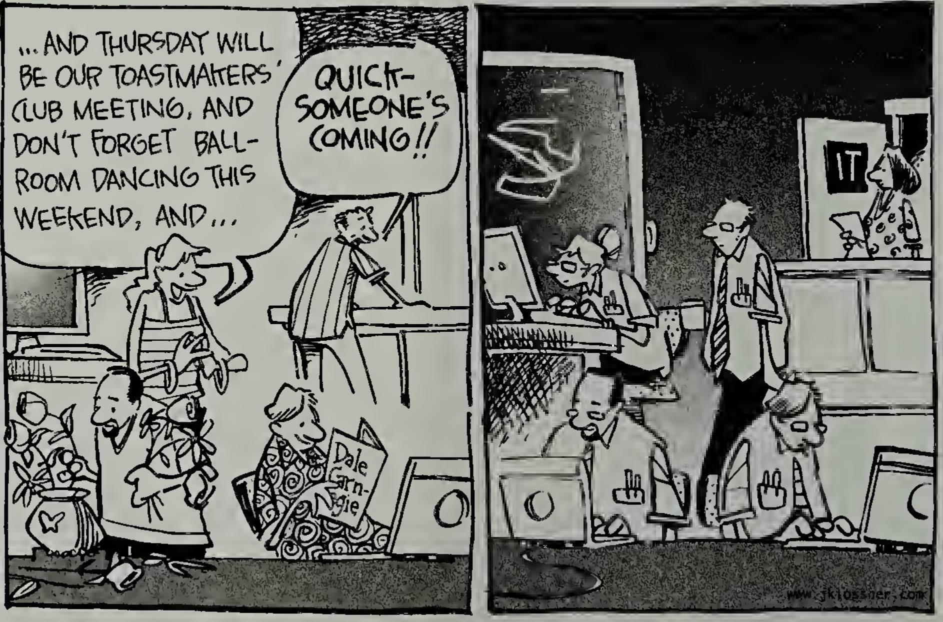
I had made a big deal in my editorial about the remarks of AMD CEO Hector Ruiz in June, when he accepted an award for leadership in global commerce at the *Computerworld* Honors event in Washington. Neither Stangis nor anyone else at Intel mentioned it, but I learned that seven months earlier, Intel had also received an award in Washington. It was for leadership in corporate social responsibility, bestowed by *Business Ethics* magazine at the Business for Social Responsibility Conference.

The full-fledged grimace came when I walked into the Intel Computer Clubhouse here in Framingham, Mass., last week, which is when I realized just how far off base I'd been in that editorial. The clubhouse, located on the second floor of an old fire station that's now the local Boys & Girls Club, is one of 122 that Intel has set up all over the world for kids in disadvantaged areas. This particular one came into being six years ago with a $200,000 grant from Intel. Steve Zepf, the Boys & Girls Club education coordinator who runs it, said he just received a $40,000 grant from Intel to refresh the technology.

"But it's not just about the technology," Zepf said. "It's about interaction with a responsible adult," which is made possible by the employees from Intel and other companies who volunteer to serve as mentors.

I can move on now, having learned that *Computerworld*'s hometown of Framingham is a better place because of what Intel is doing here, and that a lot of people in hometowns all over the world can say the same thing. As painful as the wincing and grimacing was, what I'll really take away from all this is the smile I got from seeing those kids at the Computer Clubhouse. If you'd seen them and their work, you'd know what I mean. ▸

Don Tennant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The Secret Life of IT

BRUCE A. STEWART

Think About Messages You Send

INFORMATION technology managers don't spend a lot of time thinking about their marketing messages. The ones I'm talking to don't realize they have any. But when we start to talk about the things they are communicating to their business colleagues and clients, it soon becomes apparent to most of them that they are running a marketing campaign without realizing it. Unfortunately, that means they are mostly sending messages that say "We can't help" or "We don't want to be involved" or "We can't be trusted" — not exactly the messages they want to send.

BRUCE A. STEWART is a former CEO and onetime senior vice president and director of executive services at Meta Group Inc. He is now an executive adviser in Vancouver, British Columbia. He can be contacted at **bruce@bastewart.com**.

You might not like it — or even believe it — but every interaction with users is an exercise in marketing. Here are some examples.

The newsletter: Most IT organizations publish a newsletter. In it, there's usually a chart showing how well IT is doing: system availability, response times, help desk calls, that kind of thing. What the IT department doesn't realize is how these few square inches undo all the good work it has done. From the user's point of view, the only availability that matters is 100%, and any time spent waiting on the phone for the help desk (or working with a slow application) is time wasted. These communications actually undercut the credibility of IT. Instead, talk about trends, or turn help calls into human interest stories — anything that doesn't awaken "can't win" responses in users.

The project: The client's project is ready to start, and what's first on IT's agenda? A study of what tools should be used this time around. From the client's point of view, this is work the IT organization should have done long before the project got under way. Every step in a user's project that can be seen as IT internal work rather than "moving this along to completion" work sends a message of laziness (IT didn't do what it should do routinely) or indecision (aren't IT folks supposed to be the experts on all these things?). Move everything that can be perceived as internal work outside the project. It is better to do the study in August and have a public start in September than to start in August and do the study as the first deliverable.

The planning interaction: For many companies, planning season is upon them, and relationship managers from IT are out trying to learn what their clients want in the coming year. Usually, these excursions start with a simple question: "So, what are you thinking of doing next year?" This approach freezes the relationship immediately. To develop the relationship, think ahead. Then you'll be prepared to approach business managers with something like this: "We'd like to share some things we've researched that might help you as you plan." That shows your interest in their future requirements between plan cycles. Now when you ask, "What are you thinking for next year?" you've already contributed something better than the IT equivalent of "Hi, I'm Sam, and I'll be your waiter tonight. Can I take your order?"

Contradictory messages: Business managers passionately hate getting mixed messages. Often, IT sends many. Architecture has one, the development people another, and there's a third when a problem occurs. Manage each client as an "account"; have a strategy for each. Never finger-point in public; never go off on a tangent facilitating only your area's interests. Now, what are you selling? If it's not aiding you, fix the message! ◗

THORNTON A. MAY

Banking's Boring Period

Once upon a time, not so very long ago, banks were among the most innovative of industries when it came to using IT to create competitive advantage. Observers of the financial services scene have begun to notice and comment on banking's boring period (1996-?). The question is, Is this period of noninnovation an anomaly or the new normal?

THORNTON A. MAY is a longtime industry observer, management consultant and commentator. Contact him at **thorntonamay@aol.com.**

Before we answer that question, it probably makes sense to ask, "Why did innovation stop?" Among the various analysts, experts, pundits and gurus who populate the consultancies and subscription-research houses that devote attention to the banking industry, there is general consensus about root causes. And the primary cause is massive industry consolidation.

Consider the numbers. Bank of America is the product of more than 3,000 acquisitions in its long history. SNL Financial, a Charlottesville, Va.-based company, documents that the value of the 74 bank and thrift deals announced in the second quarter of 2006 totaled $47.3 billion, more than in the previous four quarters combined. Going back to 2004, there were 271 deals totaling $131.5 billion in value, led by J.P. Morgan's eye-popping $58.8 billion takeover of Bank One. And in 2003, there were 264 bank and thrift deals, totaling $72.4 billion in value.

And consolidation won't slow soon. According to the FDIC, there are about 8,890 insured banks and thrifts in the U.S. The vast majority are small — indeed, 68% have less than $200 million in assets. One investment banker states the situation bluntly: "Many banks are in low-growth markets, and they have to grow to earn their independence. That means they either acquire or end up being acquired." One effect of this frenzy of merger and acquisition activity is that banks are so busy buying and then digesting what they have bought that innovation — particularly product innovation — hasn't gotten much thought.

Consolidation isn't alone in hampering technology innovation in the banking industry. There is also regulatory compliance. This is where you really start to hear the experts make noise. One prominent executive who spoke anonymously said that innovation initiatives always take a back seat to crime prevention and compliance efforts. One researcher revealed that one of her bank clients was spending 8% of total bank revenue on compliance.

Of more concern perhaps is the belief on the part of some clever industry leaders that the days of technology-enabled product differentiation are over. One of the smartest minds in the industry, Richard Kovacevich, CEO of Wells Fargo, describes the situation as follows: "The products are commodities. The way you distribute them is not." Are the days of innovative banking products truly behind us?

This is where banks should be concerned. While they focus on extracting postmerger efficiencies and keeping various regulatory bodies appeased, competitors like Wal-Mart and Google are entering the playing field.

The role of a bank in the financial services value chain is changing, and it's being threatened. Google Checkout allows users to make purchases from online stores using payment and shipping information they keep on file with Google. The company's goal, said CEO Eric E. Schmidt, is to make it easier and faster for people to buy products advertised on Google — and thereby attract more advertisers. It's a very different model than a traditional bank's, but a threat nonetheless.

But competition is a catalyst to innovation. It could be that a new day of bank innovation will soon be upon us. ◗

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More columnists and links to archives of previous columns are on our Web site: **www.computerworld.com/columns**

READERS' LETTERS

Inspiration's Value

I FOUND Frank Hayes' column "Best Places Secret" [Frankly Speaking, June 19] inspirational. I dare say after paying reasonable salaries to your employees, making them feel that they are making a contribution to the business is the next most important thing. If you inspire employees, you'll get more effort and higher performance from them. And that doesn't mean they'll have to invest more time; they will be more productive with the hours they already work.

Bill Thomson
Lead project engineer,
Laboratory Corporation of America, Nashville

FUNDAMENTALLY, people want to make a difference with their work. When employees can see how their piece makes the business go, many good personal and professional things happen for everyone. Thanks for identifying the real issues behind an excellent workplace.

Bob Hoagland
Vice president of IT,
WD-40 Co.,
San Diego,
hoagland@wd40.com

Users Want a 'Shazam' World

THERE WAS nothing new in the article "Want to Kill a Project? Keep Quiet About Problems, Study Finds" [*Computerworld.com*, June 7]. This has been a part of IT from Day One. Management makes promises based on hope and expects its hope to become reality. Let managers do the analysis, requirements, design, testing and implementation, then perhaps they would realize this is not a "shazam" world.

Bill Jones
IT quality assurance,
Richland, Wash.

In Defense of H-1Bs

I WAS right there fighting for the H-1Bs to go home five years ago, but I have opened my eyes ["Programmers File Federal Complaints Over 'H-1B Only' Ads," *Computerworld.com*, June 19]. These folks do our SAP work better and stay on the job better than U.S. labor.

There is a place for both types of employee in companies. Although we do not sponsor H-1Bs, we are looking in that direction due to their growth in knowledge and willingness to work without questioning the clients' needs.

Christopher M. Carter
President and CEO,
CCI, Milwaukee,
ccarter@ccierp.com

OPPONENTS OF the H-1B visa program need to get trained so they can compete with the best out there. Most of those who cry foul are underperformers or lack work experience or education. It's true that some companies prefer to hire H-1Bs, but it's not because such workers are cheap. I was an H-1B till last year, and I was paid above market rate.

For any company, the bottom line is to grow from quarter to quarter and make profits. To do that, they are always looking for the best and the brightest. And in this day of globalization, you have to compete and grab the opportunity and make your future.

Shiva Nagaraj
Vancouver, British Columbia

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TECHNOLOGY

08.14.06

Geeks Garden

This week's stroll through the technology landscape highlights souped-up nanotubes, research led by Arno Rauschenbeutel (left) into laser tweezers, and yet another father of calculating machines. **PAGE 28**

SECURITY MANAGER'S JOURNAL

I Want to Rule the World – Or Run Away From It

After a stressful year, a vacation would seem to be in order. So why would C.J. Kelly want to become her state's CISO? **PAGE 30**

OPINION

It's Not Too Soon for a Text Technology Strategy

Curt A. Monash provides advice on how to build a text technology architecture. First tip: Get started. **PAGE 31**

PHILIP ANDERSON

RFID Success Signals

As the cost of tags comes down, RFID projects are finding appropriate niches, and implementation is up. **BY LINDA ROSENCRANCE**

RADIO FREQUENCY IDENTIFICATION technology has been around for years, but it has never lived up to its hype.

As implementation costs go down, however, there are specific applications, including asset tracking and supply chain automation, where RFID technology makes sense, says Rebecca Wetterman, an analyst at Nucleus Research Inc. in Wellesley, Mass.

"There was a lot of excitement about RFID for a while, and then people took a step back and asked, 'Is this really ready for prime time?' in terms of being cost-effective and in terms of being a better alternative to the bar-code and scanning systems," says Wetterman. "As tags get cheaper and the infrastructure to manage all of that data gets cheaper, there are other areas where RFID makes sense, including in the retail environment."

Companies are also implementing RFID technology to track assets within their own walls or in their parking lots, says Louis Sirico, an analyst and chief technology officer at Silver Spring, Md.-based RFIDSwitchboard, a Web portal that offers companies information about deploying RFID technology.

Sirico, too, sees RFID becoming much more ubiquitous as costs decrease.

"I see RFID tags being built into assets; so it's not a question of tagging something, but there's already a tag built into the product," Sirico says. "I see that already starting to happen. The primary barrier is cost, but as volumes increase, more and more companies will start using it because its benefits can lead to ROI. As demand increases, the products are going to become better and less expensive."

20¢
Average cost of a passive RFID tag

Costs for passive RFID tags have dropped dramatically, Sirico says. In 2000, passive RFID labels cost about $1 each; now they go for less than 20 cents. The price of active tags has also decreased, from $75-$100 to $15-$20, he says.

Continued on page 26

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Continued from page 24

Global container shipping company APL Ltd. is using the active RFID, real-time locating system and marine terminal software from WhereNet Corp. to track assets in its 300-acre Global Gateway South terminal at the Port of Los Angeles.

"The ability to find something on that 300-acre site is critical to our ability to service our customers because . . . they want to know which container is in which parking stall out of the 8,000 or 9,000 parking stalls we have," says Nathaniel Seeds, director of port operations at Oakland, Calif.-based APL.

The WhereNet technology replaces tracking equipment that had been used to scan each row of containers since the facility opened in 1997, Seeds says. Using the old system, finding a container could take upward of three hours, he says.

"I describe that inventory system as 'Park it now, find it later,' " Seeds says. "But over time, as the business grew, it didn't respond quickly enough to the new pace of the operation."

Looking for Options

So APL began to explore alternatives, including GPS-based technology, motion-sensor-based systems and RFID, ultimately settling on the WhereNet system because it enables APL to immediately locate its inventory in real time and is cost-effective — although Seeds wouldn't provide specific figures.

APL affixed WhereTag transmitters to more than 30,000 chassis, which store the containers, and to its entire inventory of terminal trucks. A local infrastructure of more than 80 wireless WhereLAN locating access points and WherePort devices at 12 entry and eight exit gates enables the system to automatically recognize when a chassis is entering or leaving the facility, Seeds says. The system provides real-time tracking of each on-site chassis and automatically updates the chassis location when it is parked, he says.

Types of Tags

All RFID systems involve the transmission of data from a tag to a reader/scanner, but the types of tags differ in ways that determine their best use.

PASSIVE tags have no internal power supply. The minute electrical current induced in the antenna by the incoming radio signal from a scanner provides just enough power for the integrated circuit in the tag to power up and transmit a response. Passive tags can transmit ID numbers, and their chips can store data. Lack of an onboard power supply means that the device can be very small. Passive tags have an unlimited life span.

- **RANGE**: 10 centimeters to several meters, depending on radio frequency
- **PRICE:** Approximately 20 cents each, on average, down from $1 in 2000

ACTIVE tags have an internal power source that is used to power the integrated circuits that generate the outgoing signal. Because they have an onboard power supply, they transmit at higher power levels than passive tags, allowing them to be more effective in environments such as water (including in humans and livestock, which are mostly water) or metal (such as shipping containers or vehicles) or at longer distances. Many active tags have a battery life of up to 10 years.

- **RANGE:** Several hundred meters
- **PRICE:** $15-$20, down from $75-$100 in 2000

Now, when a container is unloaded from an APL ship and placed onto a chassis, a clerk ensures that the IDs of the container, chassis and yard tractor are entered into APL's terminal operating software. A yard tractor driver then transports the container and chassis into the yard. The yard tractor is equipped with sensors, and when it disconnects from the chassis, the location of the parking stall where the associated container has been dropped off is immediately recorded.

"WhereNet's deployment at APL's terminal in L.A. was the first deployment at a marine terminal anywhere in world, so we were sort of building this as we went," Seeds says.

Even so, implementation was pretty painless, he adds. APL knew that the core technology — active tags and the DTOA (differential time of arrival) location algorithms — would be functional, but WhereNet had to develop some new location algorithms specifically for the APL site, Seeds says.

"So there were some engineering issues from WhereNet's side — like how to trigger the sensors on the tractors and how to write the algorithms so we would locate a chassis that was moved from one space to another by something other than a sensor-equipped yard tractor," Seeds says.

Although the project has yielded a return on investment, Seeds says the purpose of the implementation was to improve customer service.

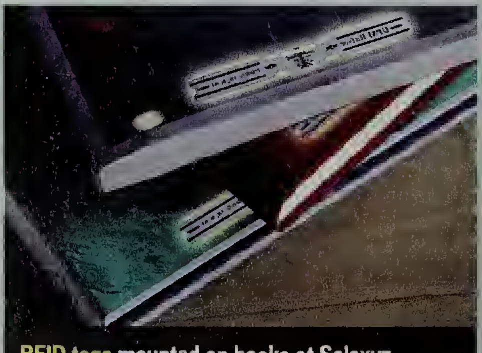
"Our focus is on the customer," he says. "We wanted to make our customers' experience as good as it can possibly be. We didn't do this to cut costs, but to improve the efficiency of the operation. We would have still done it had we not saved a dime."

Although it would be better to put the tags on the

Getting a Read on Book Inventories

AT BOEKHANDELS GROEP Nederland's Selexyz bookstores, taking an inventory typically requires closing the doors for a day and paying 25 employees to take every book off the shelf and scan each one individually. With a new system that takes advantage of RFID technology, two workers can inventory a store in just two hours. RFID scanners can read each book's RFID tag without employees removing it from the shelf – and the store can remain open during the inventory process.

"Two employees during opening hours are now capable of scanning 38,000 books," says Jan Vink, IT director at the Houten, Holland-based bookstore chain. Vink estimates that the RFID system, which cost between $550,000 and $650,000 to deploy at its store in Almere, Netherlands, will save 270,000 euros (about $350,000) in inventory-related costs while allowing the staff to know what books are on the shelves and where they're located. The Almere store's RFID system – the chain's first – went live in April. Vink plans to roll out the technology in another 20 stores in the fourth quarter. By late 2007, if all goes according to plan, all 42 stores should be using RFID, Vink says.



RFID tags mounted on books at Selexyz.

PHOTOS COURTESY OF SELEXYZ

While other retailers are experimenting with RFID or are tagging pallets or boxes, Selexyz was one of the first to tag individual items – at a cost of about 19 cents per item – and go live with a storewide deployment. "It's one of the first real store implementations out there," says Jeff Woods, an analyst at Gartner Inc.

Selexyz also uses the RFID system to check in books as they arrive and track shipments from its distributor, Centraal Boekhuis. "Centraal Boekhuis agreed to implement a semiautomated RFID-handling [workflow]," says Vink. The distributor attaches a passive RFID tag to each book in a shipment and sends an electronic advanced shipment notice (ASN) to Selexyz. Store employees then run received shipments through an RFID scanning "tunnel" from CaptureTech Benelux BV in Nieuw Vennep, Netherlands. The scanning tunnel identifies each book in the box and sends the data in real time back to a Progress Software Corp. OpenEdge database. From there, the data is matched up with the ASN, and a confirmation is sent to the distributor.

Selexyz's distribution challenge is fairly unique, says Woods. "A typical retailer would impose on the warehouse to ship orders correctly. They have a kind of unique supply chain problem, and this is the right answer for it," he says. But the system also has another benefit: "When [a store] receives inventory, they're able to count it and sort it very quickly," says Woods.

Selexyz's VINK: RFID is saving inventory dollars.

The scanning tunnel at the Almere store cut shipment check-in times from three to five minutes per box to less than five seconds, Vink says. Each box contains 25 to 35 books, and the store receives 45 to 50 boxes per day. With 752,000 books arriving every day across all 42 stores, the potential time savings quickly add up and should allow staffers to spend more time with customers. "On a yearly basis, we process 7 million books," Vink says.

The RFID scanning system also solves another problem: sorting out containers rather than on the chassis, that probably won't be happening very soon because there is so much disagreement in the industry about the best technology to use, says Robert Foppiani, an RFID analyst at ABI Research in Oyster Bay, N.Y.

"So what WhereNet is doing is tracking the chassis that hold the containers, which means it's the handling equipment that's being tracked, not the equipment itself," Foppiani says. "So the whole issue is, they want to move these containers as little as possible because the more they move them, the more time is wasted and the more it costs. So being able to monitor [the chassis] at all times and what containers they're handling helps improve efficiencies at the ports and terminals."

Reality Check on Drugs

Pfizer Inc. is using an RFID application to prevent the counterfeiting of the drug Viagra.

"Because of customer mandates and regulatory requirements to deter counterfeiting, we decided we'd put RFID tags on all cases, bottles and pallets of Viagra being distributed in the U.S. that started shipping in 2005," says Peggy Staver, director of trade product integrity at the New York-based pharmaceutical company. "We enabled an authentication service in January of 2006, which means that others in the supply chain that have the necessary infrastructure — readers, antennas, computers — in place to be able to read the RFID tags and are able to confirm back through a secure Pfizer Web site the authenticity of the electronic product code number that it is issued by Pfizer."

It took nine months to get the system ready to roll out, says Paul Greene, senior director of drug product automation for Pfizer global manufacturing, who was the leader of the team responsible for integrating the RFID technology into the company's existing systems.

The RFID system consists of technology from SysTech International, TagSys USA Inc., Alien Technology Corp. and SupplyScape Corp. Cranbury, N.J.-based SysTech is providing its TIPS (Total Integrated Packaging Solution) system, which manages all packaging line devices. Among other things, TIPS encodes and records EPC serial numbers to the RFID tags and redundant bar codes (a bar-code system is used as a backup to the RFID system).

Cambridge, Mass.-based TagSys is supplying high-frequency (13.56 MHz) item-level tags and readers. Morgan Hill, Calif.-based Alien provides ultra-high-frequency tags. And Woburn, Mass.-based SupplyScape is providing its RxAuthentication service to confirm that a package received by a pharmacy is an authentic product from Pfizer.

Greene says the integrated system is designed to work like this: First the TagSys technology marks each Viagra bottle with a unique RFID-enabled product identification tag that captures information at the individual item level. Then the SysTech system verifies all the data on the RFID tags and bar codes and establishes a parent-child relationship that ties the individual bottles of Viagra to the cases and pallets. The cases and pallets are equipped with ultra-high-frequency tags from Alien Technology — and the information the tags contain is stored in a secure database. The SysTech software then makes all the data available for the authentication and other business and track-and-trace applications. The system handles all the real-time packaging-level business processes, including managing rejects, reworks and quality assurance functions.

$15-$20
Average cost of an active RFID tag

Once compiled in the SysTech system, the individual drug information is exported to SupplyScape's software, which operates with supply chain partners' applications to manage drug bottle authentication as the packages are passed throughout the supply chain.

"This hadn't been done before the way we wanted it done, so we were doing it from scratch, basically," Greene says. "While doing this, we discovered that RFID middleware companies that were popping up all over place weren't ready to do this at line speed in real time, so we found that everything we needed to do in the line could be done by a more traditional line-control system vendor like SysTech, so they upgraded an existing system."

Currently, the system encodes 120 bottles of Viagra per minute, Greene says.

"It takes 400 milliseconds to do a read/write action, so maybe you can't do 300 per minute, even though that's what we wanted them to do," he says. "And there's also the issue of the tags not being as reliable as they need to be, so misreads and miswrites still occur. We need the next generation of technology to reduce the reject rate and increase the speed at which we can do it."

Using RFID to track Viagra makes perfect sense for Pfizer, says Wetterman. "We see people tending to adopt RFID more when whatever they're tracking has a higher cost," she says. "Counterfeit Viagra is a huge financial issue for Pfizer and a liability as well, so it may make sense for them to track that stuff more effectively."

Although the system is a powerful one, Greene says that until everyone up and down the supply chain installs the required infrastructure, Pfizer can only do so much.

"No one can read any of this stuff — there are a lot of parties in the supply chain, but who's going to pay for the installation of all the readers and portals, all that stuff that needs to get put in place?" Greene says. "All we can say is that we shipped the product from a Pfizer facility to a particular Pfizer distribution center to a particular wholesaler. But from there, [the supply chain partners] are on their own, because they don't have all the necessary equipment installed so they can get the [pertinent information]." ▸

IT director Jan Vink describes the RFID scanning tunnel as "a sort of a metal box with three antennas in it and a reader." While the tunnel receives and sorts the contents of incoming shipment boxes, portable readers (background) are used to scan books intended for specific shelves within specific departments.

special orders from the rest of the stock. Not only does the system flag special orders, but customers are also automatically notified. "The customer receives an SMS or an e-mail indicating that the book is ready," says Vink.

Once received at the store, the books are carried to the correct department, and each one is scanned again as it is placed on the shelf to establish its location. Because the RFID system continuously reads each tag, Vink uses Progress Software's Apama event-stream processing tool to filter out duplicate reads and ensure that every book is counted just once.

The project, which took about four months to complete, ran into its share of glitches. Some security functions were missing, and network bandwidth had to be bumped up from 512Kbit/sec. to 4Mbit/sec. to accommodate real-time flows of data to the back-end systems in Selexyz's corporate headquarters. Initially, the ASN was missing some data, Short Messaging Service was unstable, and wireless coverage to support scanners in the stores was incomplete. Vink also spent time debating what type of RFID labels to use and what type of glue to use to affix them securely to books.

"If delay is not an option, you must reconsider things and come up with work-around solutions," he says. While Vink is still working with vendors to tune the systems, overall "the core technology is working as expected," he says.

Selexyz tracks books until they are sold to the customer; the tags are deactivated at the time of sale because of privacy requirements. "We don't want to have a link between the RFID and the customer information," Vink says.

Next, Selexyz plans in-store customer information kiosks. Driven by Progress Software's EasyAsk software, the kiosks will give customers access to book availability and location data provided by the RFID scanning system. "When a customer comes in, they can more accurately know whether a book is in stock. Or if a book is in stock but not on the shelf, you can find it," says Mark Palmer, vice president of event stream processing at Bedford, Mass.-based Progress.

While Vink says the transition has been worthwhile, he cautions others to be thoroughly prepared before moving forward.

"As an IT decision-maker, you are making a strategic decision," he says. Once you've committed, he warns, "you can't back out."

– ROBERT L. MITCHELL

Geek's Garden

A STROLL THROUGH THE TECHNOLOGY LANDSCAPE

Scientists Soup Up Nanotubes

A NEW WAY to systematically modify the structure of single-walled carbon nanotubes could expand their electronic properties and open the path to nanoelectronics. Carbon cylinders a few billionths of a meter in diameter and a few microns long, these nanotubes are among the strongest structures known and have unusual electrical and thermal properties.

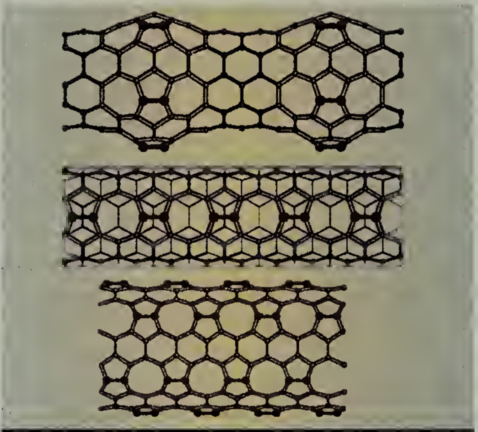
Researchers at the U.S. Department of Energy's Argonne National Laboratory developed this promising method to add defects to carbon nanotube walls. They're interested in improving the materials for thermoelectric power generation – the use of heat differences to generate electricity.

"If you change the electronic structure by adding defects in an ordered way, theoretically you can make more efficient thermoelectric materials. So we could produce electricity more efficiently from solar, nuclear or any thermal power generation," says Argonne chemist Larry Curtiss.

Creating defects by adding molecules to nanotubes is challenging because of their extremely small size. So the Argonne team used computer simulation tools to learn how to add a single carbon dimer – a molecule of two bonded carbons – to a single-walled carbon nanotube.

The single-walled nanotubes – believed to be the best candidates for the next step of miniaturizing modern electronics – resemble a long tube of chain-link fence made of hexagons. The Argonne team simulated a variety of approaches to attach the carbon dimer to the nanotube. They found the easiest and strongest method is to horizontally insert a carbon dimer into two hexagonal bonds, creating two adjacent pentagons and heptagons in the chain link.

After they understood how to add one dimer, the researchers began to add dimers in patterns.



NANOTUBE DESIGNS include (from top) "bumpy," "zipper" and "multiple zipper."

"We started building up patterns using the dimers like building blocks and adding them to the tubes," Curtiss says. The researchers found several interesting modifications:

- **The "bumpy" tube** has carbon dimers added symmetrically around the circumference of the tube to create a stable bulge.
- **The "zipper" tube** has dimers added horizontally along the axial direction to every other hexagon, creating alternating single octagons and pairs of pentagons.
- **The "multiple zipper" tube** has six axial "zippers" spaced by hexagon rows around a tube.

With simulated structures, we have new and unexpected features because they modify the electronic properties in the nanotubes.

The zipper structure particularly appeals to Argonne researchers because the atomic spacings in the openings are just the right size to bond nanotubes to ultrananocrystalline diamond and combine the properties of both. Ultrananocrystalline diamond is a form of nanocarbon developed by Argonne that has many of the properties of natural diamond – the hardest known material on earth – and can be deposited on a variety of surfaces. Unlike those of natural diamond, the properties of ultrananocrystalline diamond can be optimized depending on the application.

PHOTO FRANK LUERWEG/UNI BONN

ARNO RAUSCHENBEUTEL at work sorting atoms.

Tweezers Could Lead to Quantum Computer

PHYSICISTS at the University of Bonn have cleared one more important hurdle on the path to a quantum computer: By using "laser tweezers," they have succeeded in sorting up to seven atoms and lining them up. They reported on their breakthrough in the July 13, 2006, issue of the journal *Nature*.

In the experiment, the research team, headed by Arno Rauschenbeutel and Dieter Meschede, decelerated several caesium atoms for a period of several seconds so that they were hardly moving, then loaded them onto a laser "conveyor belt." This conveyor belt consists of a standing light wave composed of many peaks and troughs – possibly comparable to a piece of corrugated iron. "Unfortunately, it cannot be predicted which trough precisely the atoms will land in," Rauschenbeutel says. "It's rather like pouring several eggs from a big dish into an egg carton – which section each egg rolls into is a matter of chance."

However, anyone wishing to calculate with atoms must be able to place them exactly. "All the atoms on the conveyor belt have to have the same distance from each other," said Rauschenbeutel. "Only then can we get them to interact in a controlled way in what is called a quantum gate." By lining up gate operations like these, it would be possible to carry out simple quantum calculations.

After loading the atoms on the conveyor belt, the Bonn physicists "sorted" the atoms there. They did this by first taking a photo to record the atoms' positions. They next set the conveyor belt moving – and with it the caesium atoms "trapped" in the troughs. In this way, they transported the wrongly placed atoms to their "laser tweezers" – basically another conveyor belt consisting of laser beams oriented orthogonally to the first conveyor belt. "When we set the tweezers' light wave in motion, we can lift the wrongly placed atoms off the conveyor belt," Rauschenbeutel explains. "Then we move the conveyor belt to the desired position and simply pop the atom back in."

The next goal of the Bonn physicists is to construct a quantum gate. For this purpose, they want to "write" quantum information onto two caesium atoms and then place them between two tiny mirrors. The intention is that they should interact there with each other – i.e., exchange information by emitting and absorbing fluorescent light. If successful, the quantum gate will be the next milestone for the Bonn researchers on their way to the quantum computer.

DIFFERENCE ENGINES

Another Founding Father

JUST TO REINFORCE the notion that computing and IT have many fathers, consider Wilhelm Schickard. In 1623, long before Pascal and Leibniz, Schickard invented a calculating machine that was used by the great astronomer Johannes Kepler.

Schickard's invention, called the "calculating clock" by his contemporaries, was the first automatic calculator. It could add and subtract six-digit numbers and indicated an overflow of this capacity by ringing a bell. For more complex calculations, a multiplication tool called Napier's bones was mounted on it. The nonprogrammable Schickard machine was based on the decimal system. Leibniz posited the more convenient binary system in 1679.

The calculating clock

Wilhelm Schickard

Schickard's letters to Kepler, who discovered the laws of planetary motion, explain the application of his device to the computation of astronomical tables.

Schickard studied theology and oriental languages at Germany's University of Tübingen, where he received a bachelor's degree in 1609 and a master's degree in 1611. In 1613, he became a Lutheran minister. In 1619, he was appointed professor of Hebrew at the University of Tübingen, but in 1631, he changed focus and was appointed a professor of astronomy.

Schickard's research was broad and included astronomy, mathematics and surveying. He invented many machines, like one to calculate astronomical dates and one for Hebrew grammar. Schickard also made significant advances in mapmaking. He died of the plague in 1635.

PAGE COMPILED BY TOMMY PETERSON.

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I Want to Rule the World – Or Run Away From It

After a busy year, a vacation would seem to be in order. So why would our security manager toss her hat into the ring for a more stressful job? By C.J. Kelly

WHAT I need and what I do are two different things. I know that what I need is to take a very long vacation in a warm place where I could sit on the beach, sipping something alcoholic and sweet while my toes wriggle in the sand and the warm water of the incoming tide laps about my ankles. No cell phone, no laptop, no schedule. I wouldn't be responsible for anything.

SECURITY MANAGER'S JOURNAL

This year has been crammed with projects at work and activities at home, yet instead of giving my frazzled mind the rest it needs, I heaped more work and responsibility on my head. My problem is that I want to rule the world.

First, I accepted an appointment at the local university to teach telecommunications, security and IT classes. I used to teach before I moved to this state. I love teaching and have been waiting for an opportunity here. It finally came — at the busiest time in my life. I will be working at my state agency security manager job during the day and teaching several nights a week.

Second, I threw my hat into the ring for the state's chief information security officer position. I have already been through the first round of interviews, and it went so well that I almost convinced myself that it was a done deal. But I have been around long enough to know that it is entirely possible that a senator's nephew is in line for the job and I am just part of the process to help make the selection look legitimate.

At the interview, I was asked the usual questions about how I would deal with various scenarios. I answered them all with conviction and clarity.

One of the more interesting questions was how I would handle huge security concerns with very little budget money. I told the interviewers the story of what happened two years ago when the state legislature refused to approve the funding that would let my state agency purchase firewall technology. As I've explained before in this column, my only option was to build open-source firewall and intrusion-detection tools. Using old computers, extra network interface cards and some time, I satisfied our needs with no budget.

I also expounded on some philosophical issues. I said that the most important thing for CISOs to do is to keep their eye on the ball, the ball being total security. I know that total security doesn't really exist, but it remains the goal nonetheless, and that means that everything matters, from the physical layer up through the application layer. Data at rest and data in transit must be protected from unauthorized access. It's that simple — and it's that complicated. It's a daunting responsibility.

> I said that the most important thing for CISOs to do is to keep their eye on the ball, the ball being total security.

Gaming the System

Then it was my turn to ask questions. I had only one: "What do you want to happen in this position?" The CIO piped up immediately, looking me squarely in the eye.

"I want someone who has the technical security background to know what we need to do to secure the state networks and also has the ability to sell security to the state legislators." He explained that his background was pure IT, and he knew enough to know what he didn't know about security. It was an honest admission that I admired.

That was exactly what I wanted to hear. I'm not interested in a high-level state position for its political aspects. I want to rule the world only to the extent of making sure that security gets done right. The title doesn't impress me, and I would certainly get paid better in private industry. But if the title gives me authority to get things done, then so be it.

Of course, to be a successful CISO, you have to make sure that the right people are in the right positions doing the right things. My biggest fear with this whole deal isn't that I will be caught up in politics or that people might think I lack the proper technical credentials; it's that I won't be given the authority to hire and fire so I can pull together the right team of technical security people.

In government, I have learned, it's a very tricky business to fire someone. Background, initiative, education and the drive to do a great job aren't necessarily prerequisites for being hired. Job security is practically guaranteed unless you commit a crime.

When I was in the private sector, I knew that I could get a pink slip any day of the week. That possibility is a huge motivator for some people. But even when I was a single mom and solely responsible for lots of little children, I wasn't afraid of the pink slip because I was an excellent employee. I have wondered if people who choose to work for the government do so because of the job security it offers. I chose it because I had moved to a small market and it was the only job I could find.

I took great pains to learn how the system works and then found ways to ensure that I wouldn't have to suffer with subpar personnel. Working this broken personnel system may not be politically astute, but I believe I am doing the taxpayers a service in demanding excellence and not tolerating less-than-acceptable performance. I guess my fear about the CISO job is that what I have gotten away with in my relatively tiny state agency would be more visible on the larger stage I would be operating on.

Soon, the answer will be learned: Either I will be chosen to rule this little security world and so become a big fish in a little pond, or I will not. I will let you know what happens. ▸

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "C.J. Kelly," whose name and employer have been disguised for obvious reasons. Contact her at mscjkelly@yahoo.com or join the discussions in our security blogs: **computerworld.com/blogs/security**

C.J. reads all her e-mail but can't personally respond to all of it. Check her blog for her question of the day.

To find a complete archive of our Security Manager's Journals, go online to **computerworld.com/secjournal**

SECURITY LOG

BlackBerry Trojan Unveiled at DefCon

Security researcher Jesse D'Aguanno has developed what he bills as the first Trojan horse for Research In Motion Ltd.'s BlackBerry e-mail device. The software, which was demonstrated at the DefCon hacker conference, works with another piece of code, called BBProxy, that can be used to attack vulnerable machines within a corporate network. D'Aguanno said he wrote the hack to show that e-mail devices can be as vulnerable as PCs.

Mob Going Online

Speaking at DefCon, FBI agent Thomas X Grasso Jr. said cybercriminals are increasingly using the same organizational structures as crime syndicates, in part because traditional organized crime gangs are becoming involved in online crime. Grasso said the FBI estimates that cybercrime cost the U.S. more than $67 billion last year.

IM Attacks on Rise

Instant messaging attacks against corporate networks rose 160% last month compared with June, according to Postini Inc. Postini also reported a 13% month-over-month rise in encrypted e-mail traffic.

Novell Upgrades Sentinel Tool

Novell Inc. announced an update to Sentinel, the security information and event management software it acquired with e-Security Inc. Novell said Sentinel, which has been integrated with SUSE Linux Enterprise Server and Novell's identity management tools, lets users manage compliance and security risks with an integrated audit infrastructure.

BRIEFS

Authentium Releases Banking Dev Kit

■ Authentium Inc. in Palm Beach Gardens, Fla., has released VirtualATM, a software developer's kit for online banking. The product enables financial institutions and Internet service providers to build applications that allow direct, secure online connections, according to the vendor. VirtualATM creates a secure tunnel to a user's account through a thin client when a user logs in. Then the client software locks down the user's desktop, halting interaction with other applications such as keystroke loggers, spyware or other malicious agents. Users can embed the VirtualATM technology, which complies with security guidelines from the Federal Financial Institutions Examinations Council, into their own customized offerings, according to Authentium. The product is available now and starts at about $79 per seat annually.

Open Text Upgrades Collaboration Suite

■ Open Text Corp. has released Version 8.3 of its FirstClass Collaboration Suite, a collection of software designed to facilitate communication between users across any number of Internet devices, according to the Waterloo, Ontario-based company. Pricing scales down from $100 to $30 per user as volumes increase by factors of 10. Educational pricing starts at $40 per user.

IBM Unveils RFID Developer Tool Kits

■ IBM has added three radio frequency identification tool kits to its alphaWorks online developer network. The RISE (RFID Integrated Solution Enablement) tool lets companies test customized RFID setups before implementing them, while the Device Development Kit and Application Level Events Preview assist in RFID education at both the business and university levels, according to the company. All three tool kits are available for free download.

CURT A. MONASH

It's Not Too Soon for a Text Technology Strategy

IN LAST MONTH'S COLUMN, I explained why organizations need architecture strategies for text technology. Search, document finding and media object finding are important in a broad variety of applications across almost any enterprise. So is, or should be, knowledge (re)discovery from text documents. And some enterprises have linguistic technology needs even beyond these two broad categories — for example, in speech recognition, voice data mining or high-end custom publishing.

CURT A. MONASH is a consultant in Acton, Mass. You can reach him at **curtmonash@monash.com.**

However, text technology is on the whole quite immature. No vendor offers a full product suite or even a near-term road map for assembling such a suite. The "big" players in the industry include Autonomy, which had $61 million in revenue in its latest quarter, and Fast Search & Transfer, which had $33 million. Some consensus technological leaders, such as fact-extraction stars Attensity and ClearForest, are private companies with under $10 million in revenue. And one key product category, a truly comprehensive ontology management system, doesn't seem to be on anybody's product radar at all.

Of course, you can and should have a text technology strategy despite this immaturity. Just be tolerant of specialized departmental solutions, and be prepared to change the whole thing fairly frequently. One helpful approach may be to view this area like business intelligence — perhaps mid-1990s BI. If nothing else, many uses of text technology are for BI or analysis — reporting, mining, alerting and so on.

But the analogy goes further. Some sophisticated uses of text technology, such as knowledge extraction and text data mining, are clearly departmental at this time. Simpler functions, however, such as search or, in the BI analogy, general reporting, may be more appropriately implemented enterprise-wide. And, much as in data warehousing, text technology relies on specialized data stores with information copied from production systems. (Actually, the text case is slicker, because a text index is a complete copy of the underlying data.)

Given where we stand today, here are some principles for practical enterprise text technology architectures. For more detail and a bunch of useful links, visit *www.texttechnologies.com.*

Deploy search technology widely across the enterprise. It's highly imperfect, but it's almost certainly worth the cost. Use it to get at everything from e-mail to Microsoft Office files to structured records. In particular, use it in CRM and the other "relationship management" app categories, where extra context or insight can directly affect your bottom line.

It's OK for your text data to be distributed across a range of silos. Some of your text is held in RDBMS transaction files — for example, in call reports, insurance claims, warranty databases and the like. A lot is in e-mail archives. Some of what you use is out on the Web. Don't worry. Text indexing systems can mash all that together into one big inverted-list index for searching or data mining.

Integrate fact extraction/text mining aggressively into your predictive analytics and dashboards. Some of your most important key performance indicators may be the ones that get updated one textual communication at a time. And if your data set is large enough to form a usable statistical universe, text mining will probably make your predictions more accurate.

Having a preferred text technology tool suite is nice, but accept that there will probably be lots of departmental exceptions. The technology is still immature, and no one suite is close to being best of breed.

Reinvent your customer communication (and other) processes to exploit text technologies. This is more important than many of your purely technical decisions. Mine everything you can get out of customer e-mails, call center reports, warranty forms, survey forms, blog postings and anything else you can find. Then redesign your processes to get even more open-ended text data.

Integrate your ontologies. I'm putting this one last because it's both the most confusing and the most controversial. *Ontology* and *taxonomy* are scary words to customers and vendors alike. Yet they should be faced. A lot can be done, especially on the search side, with tools that don't have any particular semantic understanding. But the most accurate text technologies rely on clever thesauri and taxonomies to "understand" meaning, irrespective of the exact words used.

The resulting ontologies necessarily differ from organization to organization, and building them is a huge part of a sophisticated text technology implementation. So reuse that work! And not just from text silo to text silo. You also have tremendous semantic knowledge in your relational databases, both in your neat metadata structures and in the dirty, synonym-laden underlying data itself. ▸

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8:30am to 9:15am	**Industry Overview**
9:15am to 9:45am	**End User Case Study**
9:45am to 10:00am	**Refreshment and Networking Break**
10:00am to 10:30am	**Transforming the Business Through the Office of the CIO** Cecilia Claudio, Chief Information Officer, Mercury
10:30am to 11:00am	**Driving Operational Excellence During Rapid Growth** Robert Watson, Vice President of IT Operations, Cingular Wireless
11:00am to Noon	**Panel Discussion** Moderator: Don Tennant, Vice President and Editor in Chief, Computerworld Panelists: Cecilia Claudio, Chief Information Officer, Mercury; Robert Watson, Vice President of IT Operations, Cingular Wireless

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Taming IT at the World Wildlife Fund

CIO Gregory Smith's injection of for-profit rigor into the organizational culture of the nonprofit World Wildlife Fund has boosted the IT group's performance and enhanced its reputation. **PAGE 38**

Beating Institutional Inertia

IT leaders Ruth Harenchar of The Hobart West Group and Harry Rabenhorst (left) of VW Credit share personal tales of how they overcame organizational resistance to cost-cutting projects. **PAGE 40**

OPINION

Bad News Is Not Like Fine Wine

Ignoring problems almost never improves them, says Bart Perkins. He offers a framework for facing bad news in a timely and effective way. **PAGE 41**

CHANGING LANES

How Volkswagen got back on the road to high-performance IT.

BY JULIA KING

IT TOOK A CRISIS for Volkswagen of America Inc. to learn that strong governance is the only way to keep IT aligned with the automaker's primary goal of selling more cars than the competition.

The year was 1999. IT costs were skyrocketing with an outside outsourcer, so VWoA cut short its 10-year contract in favor of strategically insourcing IT to Gedas AG, an IT services provider then wholly owned by German parent company Volkswagen AG.

"At that point, there was a thought that we had no need for governance because Gedas was part of the VW organization," recalls Allen Piercy, chief technology officer and general manager of IT infrastructure architecture and operations governance.

But it wasn't long before costs again began to climb. Different departments had added new and incompatible software and functionality on an ad hoc basis over several years. These applications had to be integrated via a complex set of homegrown software interfaces, all of which worked to erode system stability over time. As a result, routine tasks such as calculating automobile sales at month's end became major IT productions fraught with delays and expense. Even worse were highly visible, IT-enabled business blunders, like failing to accurately forecast and match the right car models to the right markets. "We woke up with a monster of an IT infrastructure," Piercy recalls.

VWoA officials knew that what was sorely lacking was clear alignment between IT and the business, but change came slowly until Andreas Hestermeyer was hired as CIO in 2004. His mission: to accelerate an IT transformation. Two years later, business and IT at VWoA are virtually indistinguishable, performing a single set of activities for manufacturing, selling and servicing cars.

MICHELLE ANDONIAN

CIO ANDREAS HESTERMEYER (seated) and his team (left to right, EVELYN MODDERS, TROY McLEAN, ALLEN PIERCY and LISA DALMIA) have helped address Volkswagen of America's alignment challenges so IT and business are virtually indistinguishable.

The first step was stabilizing the IT infrastructure, which meant taking what Piercy calls "a much more hands-on role in setting technology standards and designing the operational IT infrastructure."

Piercy assigned each member of his 10-person IT managerial team to one of four architectural "domains" focused on applications, data, infrastructure and services. "Now, everyone on my team has a part of the IT architecture," he says. "They're responsible for setting standards and making sure there is clear

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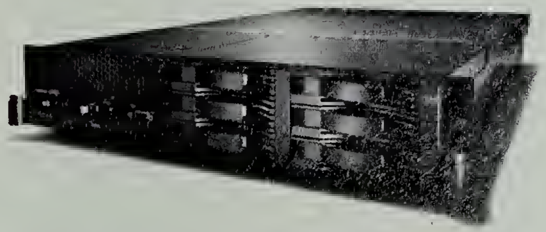
_INFRASTRUCTURE LOG

_DAY 28: These slow, inefficient boxes don't have enough power to run my high-end business apps. They can't do anything. Though I guess crashing counts as doing something.

_Need sleep. Will try to dream that I am I.T. King of a distant planet that only produces stupefyingly powerful servers.

_DAY 30: I've taken back control, thanks to the IBM System x™ server with the AMD Opteron™ Processor. It has more power and more efficiency than I ever imagined in a standards-based server. The PowerExecutive™ tool assigns power as needed for each server. It helps optimize our power consumption. Maximize performance. Increase reliability. I can finally sleep in my own bed again.

_I have taken back control. I am Ned, benevolent I.T. King of this...uh, data center.



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FLEXIBLE SYNCHRONICITY

The one technical area where Volkswagen of America has retained a hands-on role is in deciding technology standards and designing the operational IT infrastructure. It's the key to keeping costs down, says Allen Piercy, CTO and general manager of IT infrastructure architecture and operations governance. "When you add something completely new to the IT infrastructure, you add in costs," he notes.

The ultimate goal is for all of Volkswagen's operations to be in sync from a technology perspective with the parent company in Wolfsburg, Germany, in order to avoid costs.

This synchronicity is a target but not an absolute. "We are a global organization, and we want to be synchronized appropriately," Piercy says. To meet that goal, Volkswagen as a whole has developed a uniform technology index, or UTI, which Piercy says is "used to measure and to minimize the different moving parts of the IT infrastructure and to come to as much of a standard infrastructure as possible."

The index takes into consideration the technology standards in use, how closely those standards map to the ones in Germany, how many deviations of the enterprise standard occur annually and how many deviations are in production.

"We have a technology governance committee on my team that reviews everything that comes in from a project standpoint," Piercy says. "There are checkpoints along the way so we can make sure that we're following standards and not introducing something foreign into our environment."

– JULIA KING

> No one likes to be governed, but they like the benefits that governance brings.
>
> **TROY McLEAN,** LEADER, BUSINESS RELATIONSHIP MANAGEMENT GROUP, VWoA

SHIFTING SKILLS

"What's important in my world is information and process," says Andreas Hestermeyer, CIO at Volkswagen of America. What's not so important are servers, storage, networks or switches.

The same is true for the skills VWoA is looking to hire into the company. Process knowledge, not programming, is the ticket, says CTO Allen Piercy. IT professionals at VWoA "are not going to have access to Unix servers or all of the passwords to Cisco routers," Piercy says. "Instead, they'll be responsible for developing technology road maps."

"We're looking for people with broader general experience and with management-level experience," adds Troy McLean, leader of the business relationship management team. "Ultimately, the more folks have business experience, the better."

For her process support team, team leader Evelyn Modders says she looks for people "who have a visionary ability to see the forest through the trees but also can see how the trees play a part in the overall ecosystem." Process "is all about looking at things holistically," Modders adds. "But more than anything else, you need to be customer-focused."

– JULIA KING

Continued from page 33

alignment with Germany." They also make sure that all new projects initiated in the U.S are implemented in a standard way.

Beginning in 2005, VWoA also began putting in place strict service standards. It adopted the Information Technology Infrastructure Library (ITIL) framework of best practices for the delivery of IT services from various outside providers, including Gedas (which is no longer owned by VW). ITIL outlines an extensive set of management procedures for achieving quality and value in IT operations. The procedures are supplier-independent and cover IT infrastructure, development and operations.

Then came the hard work of documenting the company's activities and mapping them to the technology and the information required to perform each one.

MEASURE WHAT COUNTS

AS LEADER of the process support team at Volkswagen of America, it's Evelyn Modder's job to first understand the activities performed in the business units and then determine the best technology to support those activities. After that comes the critical step of developing performance indicators by which to measure her team's work.

The key to getting an accurate assessment, she says, is creating indicators linked to processes, not technology. For example, a key performance indicator for a system supporting the acquisition of parts or other materials might be time to contract approval, but not system transactions per hour.

The reason: "It's the measures that drive the appropriate action," Modders explains. "If we see that the appropriate action is not happening, we have to then assess whether we are performing the wrong action or measuring the wrong metric. It's all about applying systems thinking to the whole process."

– JULIA KING

No Prima Donnas

There are no pure IT projects or traditional IT staffers at VWoA. Hands-on IT work, such as programming and testing software applications, is conducted almost entirely by outside contractors. What has stayed in-house are the far more strategic tasks of managing projects, working with business units to analyze business processes and the information needed to perform them, and supporting the measurement of business performance. This is the work of the company's ultralean 33-person IT governance organization, which is headed by Hestermeyer.

All projects are prioritized quarterly by an IT steering committee composed of business, finance and IT representatives. The group uses a project portfolio management process, which takes into consideration long-term business goals and benefits, IT architectural standards and costs across the entire corporation, and opportunities that may come up as the business environment shifts.

There are no prima donnas. A finance project may be put on hold or in queue behind a project for a new warranty services system or a parts-ordering application. Governance team members describe the result as a "healthy tension" among business unit leaders.

"We conduct an annual planning activity with representatives from every part of the business. We look at hundreds of projects and prioritize them," says Hestermeyer. "If you want to be in a room with a lot of tension, that's the place."

"No one likes to be told that their project is being slowed down" because another project is more critical to the company as a whole, says Troy McLean. He leads the business relationship management group, which acts as a liaison between IT and business. "No one likes to be governed, but they like the benefits that governance brings," he says.

Among those benefits is the ability to quickly innovate and respond to changing business conditions, says Lisa Dalmia, general manager of program and project management.

One example is Volkswagen's recently announced work with DaimlerChrysler AG on a new minivan for the North American market. Production of the Volkswagen minivan, which will be based on the next-generation Chrysler and Dodge minivans, will begin in less than two years — a nanosecond in the auto industry.

As counterintuitive as it seems, rigorous and methodical project planning and prioritizing enable the company to switch gears quickly as new opportunities arise, says McLean. "When we do have to take quick action, this kind of planning and prioritization helps us quickly identify how taking the action will impact the rest of our project plans," he says.

Once a project is decided on, a project team is assembled that comprises a process manager, a project manager, a business relationship manager and a technical architect. The process manager works closely with business users to understand exactly what they need to do, analyzes the step-by-step tasks involved and recommends supporting technology. The business relationship manager acts as liaison between users and IT. The technical architect ensures that the project complies with overall VW technology and process standards. And the project manager, as the overall coordinator, keeps the project on schedule. These four disciplines are represented on every project team and, by design, can never accomplish anything on their own, Hestermeyer notes.

"This organization only works if the team works together," he emphasizes. "The business relationship manager, for example, can't accomplish anything on his own because processes can't work without interfaces to other processes, and those interfaces need to be in sync with our technical standards."

This is where the tensions can really set in, team members say. Not only does each representative need to balance his needs and requirements with those of his three counterparts, but all of them also have to weigh the value and consequences of what is expedient in the short term against what is in sync with long-term technology architecture standards.

"We have an emphasis on long-term perspective," says McLean. "But of course, that doesn't make immediate decisions any easier."

Still, the project process, as contentious as it may be at times, is paying off, says Hestermeyer. "Last year, with a multimillion-dollar project budget, we had less than 5% overspend."

That makes sense to Mark Lutchen, senior partner in the IT effectiveness practice at PricewaterhouseCoopers. "Governance is the glue that brings business and IT together," Lutchen says. "The ultimate objective of having a rule set is to have much a more efficient spend in IT and to make sure it counts." ▸

Magazine of the Year and Best Overall Web Publication 2006

Just two years after being named Magazine of the Year by the American Society of Business Publication Editors (ASBPE), Computerworld has won it again! This prestigious award can go to any business publication in any industry category, so it is truly an honor worth celebrating.

As if this weren't enough, at the same ceremony, the ASBPE named Computerworld.com Best Overall Web Publication among business-to-business sites. We are extremely proud that our ongoing commitment to editorial integrity, audience focus and in-depth coverage in print and online has been recognized by these distinguished awards.

Computerworld is committed to providing you, our readers, with exceptional content and timely information that is always presented from your perspective. Thank you for letting us be your voice.

ASBPE
Magazine of the Year
2006

ASBPE
Best Overall
Web Publication
2006

COMPUTERWORLD
The Voice of IT Management

Taming IT At the World Wildlife Fund

CIO GREGORY SMITH (bottom right) and his team (clockwise): Tim Sivia, Anne Topp, Deepika Bardhan and Lynn Parsons.

CLAUDIO VAZ

CIO Gregory Smith has challenged his nonprofit IT group to operate like a business.

BY THOMAS HOFFMAN

PRIOR TO 2001, IT governance was a foreign concept at the World Wildlife Fund (WWF). Business unit leaders decided which IT projects to fund without documenting their requirements or drawing much input from the IT organization. The IT department was expected to support all new applications that were introduced, and modifications to systems were communicated to the IT staff very informally.

Back then, "there was nothing written down for a system change," says Deepika Bardhan, the WWF's manager of marketing systems, who has been at the nonprofit organization for 12 years. "A business manager would just walk into my office and ask for one."

In those instances where the IT department was involved in selecting third-party software, the IT team was expected to purchase the lowest-cost system.

"We worked with whatever funding we had available," says Lynn Parsons, manager of operations systems and a 17-year WWF veteran.

In short, the culture within the IT department at the Washington-based WWF exhibited all of the characteristics of a typical nonprofit organization.

But that all changed when Gregory Smith came aboard as CIO five years ago. Before joining the WWF, Smith had been a senior IT executive for an-

World Wildlife Fund U.S.

HEADQUARTERS: Washington

CHARTER: Nonprofit organization that works in more than 100 countries to conserve the diversity of life on earth.

IT STAFF: 20 people

2006 IT BUDGET: $3.5 million

other nonprofit in Washington, AARP, where he oversaw software development, e-business and a business intelligence repository of information on more than 32 million members. WWF executives had sought a CIO with a nonprofit background. But Smith, who has also worked in IT management at Sallie Mae and as a senior principal consultant at PricewaterhouseCoopers, quickly decided that the entire organization would benefit from adopting a for-profit IT governance structure.

A Hybrid Model

As a starting point, Smith had to determine which type of IT governance structure would work best at the WWF. He did his homework by hobnobbing with other CIOs and evaluating IT governance models that have been analyzed by Forrester Research Inc., IDC and MIT's Sloan School of Management. In the end, Smith decided upon an IT governance model that combines "IT monarchy" with "IT duopoly."

According to Peter Weill and Jeanne Ross, co-authors of *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results* (Harvard Business School Press, 2004), organizations that operate under an IT monarchy place key business unit and technical decisions in the hands of the CIO. Under the duopoly method, decision-making for IT budgets, applications and technologies is shared among the CIO and business unit leaders. The approach that Smith selected blends the two techniques.

For example, using the IT monarchy approach, Smith and other members of the IT organization determine IT infrastructure updates based on growth, usage and other criteria. The infrastructure technologies that the WWF's IT department has selected include voice over IP, storage-area networks and e-mail archiving systems.

"In this case, the owner of these systems is IT, and that's why we make the call," says Smith.

But when it came down to determining the needs for timekeeping, payroll and human resources information systems a few years ago, the WWF's IT and business units worked together under an IT duopoly approach. Users were engaged early on, helping to create well-defined process requirements, and they were active members of the project rollout teams, says Smith. In this case, the HR department "owns" the systems, Smith says, "and that's why they're engaged in a duopoly."

Convincing the Skeptics

Smith's IT governance model was initially met with skepticism, starting with business leaders who were resistant to change and weren't keen on the new rigors of documenting project requirements in order to obtain approvals and funding. Likewise, his changes to the WWF's IT operating philosophy weren't universally accepted by IT people, who were also accustomed to doing things a certain way.

"I didn't like it," says Parsons. She was used to working under the constraints of a limited budget and selecting the lowest-cost systems, but Smith challenged the IT organization to purchase and install best-of-breed, Tier 1 types of systems from vendors such as Oracle Corp., Ceridian Corp. and SAS Institute Inc.

To help sell the concept of adopting Tier 1 systems early in his tenure at the WWF, Smith spoke frequently to business executives and IT staffers about the benefits of enterprise systems over less-expensive alternatives, including the financial stability of large, established vendors, better and more timely product upgrades, and the availability of vendor support staff. Those conversations helped him establish baseline costs for adopting these systems prior to vendor selection. "I sold the need to look at better solutions as part of my budgeting business case and outlined cost estimates for these vendors upfront," says Smith. "Once the money was allocated and approved by the board, we defined the requirements and went shopping."

Tim Sivia, the WWF's manager of financial systems, had assumed some of the duties of the previous CIO before Smith came on board. Sivia says he was concerned that enterprise systems being adopted, such as Oracle Financials, might not be a good fit for a relatively small nonprofit organization.

"We had been using much smaller, off-the-shelf systems," says Sivia, who has spent two stints at the WWF since 1985. But he later learned that other nonprofits were using similar enterprise systems. Sivia now says that these systems have given the WWF "a lot of flexibility and stability" in handling its operations.

Project Rigor

The IT governance model has also added rigor to the WWF's project management practices. Prior to Smith's arrival, IT projects were conducted and monitored on an ad hoc basis, and project teams didn't follow any repeatable processes, he says.

To help gain buy-in for a strong IT project management methodology from the organization's 20-person IT team, Smith told staffers that he would accept full responsibility for any mistakes that might crop up. Although there were doubters, many IT employees recognized that changes were needed and that more exacting project and change management would benefit the organization.

"Greg brought in a process that helped people realize that better decisions would be made," says Sivia.

"There's much more of an audit trail with projects now as to who did what," adds Bardhan.

Since imposing more formal project management methodologies, the WWF's IT department has delivered all of its major projects at or below budget and hasn't once overshot its annual IT budget. That has won the confidence of the WWF's executive committee, which has increased the organization's annual IT spending by an average of 3.6% for each of the past five years, says Smith — years when many IT departments saw cuts in funding.

Smith has driven other changes that have also transformed the WWF's IT organization. Prior to his arrival in 2001, the WWF made extensive use of long-term IT contract labor, with some contractors sticking around for as long as four years. Now, contract assignments range from one to six months, and contractors are used, in part, to train full-time IT workers on specific technologies, such as Hyperion.

That approach has helped the WWF's IT staffers hone their own technical skills and beef up their business acumen. "In the past, business leaders didn't come to IT to solve problems," says Anne Topp, the organzation's director of network services. "Now, the business trusts us and comes to us because we can add value to their projects."

Craig Symons, an analyst at Cambridge, Mass.-based Forrester Research, says IT groups at most nonprofit organizations tend to lag behind their for-profit counterparts when it comes to adopting IT governance and other leading-edge IT management practices. Smith's approach to managing the WWF's IT activities "may be out in front among nonprofits," he says.

Under Smith's governance, the WWF's IT group has ended several years with budget surpluses. When that has happened, he has donated at least part of the savings to the organization's conservation fund.

Though Smith has brought a for-profit mentality to the WWF, he hasn't forgotten where its heart is. ▸

Saving Bucks

A FOCUS ON IT governance at the World Wildlife Fund has also meant greater control over IT spending.

In addition to reining in contractor costs, CIO Gregory Smith has established application service provider (ASP) agreements for the WWF's human resources, timekeeping and payroll systems.

The hosted software deals have generated hardware and software maintenance cost savings of at least six figures over the past three years, including reductions in patch management, back-end database and software upgrade expenses, says Smith.

Moreover, Smith adds, the ASP agreements have had "a positive impact on our disaster recovery plans – since we don't keep those servers in-house – and on our disaster recovery contract."

When Smith joined the WWF in 2001, the organization had what he calls an "atrocious" number of PCs: about 650 for 350 staffers – nearly a 2-to-1 ratio. Smith quickly set a goal of one computer per person. Anyone who wanted a laptop would have to demonstrate a need for it, he says.

Smith has since winnowed the WWF's PC inventory by one-third, to 400 machines. The hardware consolidation has helped the WWF pare its PC software licensing and maintenance costs by 33%.

– THOMAS HOFFMAN

Beating Institutional Inertia

How two IT managers overcame organizational resistance to cost-cutting efforts.

BY THOMAS HOFFMAN

Nothing is more important to a project's success than buy-in from key stakeholders, so it's particularly exasperating when an IT project aimed at saving the company money meets with resistance from IT and business constituents alike.

Savvy IT leaders know how to work through these political bottlenecks. Here's how two managed to break through organizational inertia to make their projects succeed. Their stories – one from a decade ago and one from today – show that challenges may change, but good leadership is a constant.

Sharing The Wealth

About 10 years ago, when she was working as the director of the IT project management office at a multinational consulting firm, Ruth Harenchar discovered that the company wasn't fully leveraging its buying power with Microsoft Corp. Instead of optimizing its software spending with the vendor through a global enterprise-licensing agreement, each business group had its own Microsoft contracts.

Harenchar began working with the CIO to try to convince senior business leaders that an enterprise licensing agreement would save money.

While the business executives understood the merits of IT standardization within their own departments, buying into this idea on a companywide level was "something that they needed to be coaxed into," says Harenchar, who is now CIO at The Hobart West Group Inc. in Florham Park, N.J. Harenchar faced various types of resistance within the business. Some business leaders didn't want to share how much they were spending with Microsoft because they didn't want to put in the time and effort to find that information, she says. Others feared that disclosures might reveal a poorly negotiated deal.

So Harenchar set out to win the hearts and minds of senior business executives one at a time.

"I would take people out to lunch every couple of weeks and feed them information about what we were trying to accomplish and how this could benefit them," she says. "It was a little bit of 'I'll show you mine if you show me yours.' "

She gradually built relationships with the business leaders and was able to enlist their help. "It's a matter of gaining someone's trust so that they're willing to dig up the information on what's being spent," says Harenchar.

She was also careful to avoid missteps. One of her predecessors had tried to consolidate Microsoft licenses by recruiting a project team throughout the IT organization, upsetting several IT managers who felt they should control their people's assignments. Instead, Harenchar used "diplomacy and persuasiveness" to get senior IT managers on board before pursuing the team members she needed.

Harenchar also promised to share the glory — and the savings. She told business leaders that she would give them credit for proposing the consolidation plan and would share cost savings with their units. "It's amazing how dollars saved will influence management," she says. "If the business units get to book the savings to their bottom lines, they really do cooperate and get out of your way."

If a business leader didn't cooperate initially, Harenchar showed him how much some of the comparable business units expected to save through the license consolidation and promised that she would help him achieve similar savings. Once she pulled the necessary information together, Harenchar hammered out a deal that saved the company more than 20% of its annual Microsoft licensing costs.

"I find that you do better with diplomacy in these types of situations," says Harenchar. "But you also need to show tenacity to get the job done." ▸

Driving Asset Management

To help provide greater visibility into its IT spending, the finance and controller's office of VW Credit Inc. asked Harry Rabenhorst in January 2005 to determine the total cost of ownership for the company's hardware and software. VW Credit's IT department in Libertyville, Ill., is responsible for more than 500 software applications, and Rabenhorst is its financial manager. So to nail down the TCO and make the process repeatable, he and other IT executives decided to create an enterprise software asset management program.

At the time, there wasn't an organization-wide approach to tracking software assets, and there wasn't reliable data about software depreciation, says Rabenhorst.

Implementing the asset management program required "a large change in our culture," he says, and luckily, his CIO supported the initiative.

But cultural change is hard. Some IT and business managers immediately resisted the idea of tracking the company's software assets, partly because of the amount of work that would be required of them. "The thinking was, 'We never did this before, so why do it now?' " Rabenhorst says.

It didn't help that one director didn't approve of the asset management project, since he viewed the effort as intrusive. Interestingly, virtually all the people in IT who resisted the project also reported to that person.

To get the company on board, Rabenhorst and his team took a variety of approaches, ranging from "extremely nice" to "extremely direct," he says.

The approach taken varied on a case-by-case basis, says Rabenhorst, but creating and maintaining open lines of communication with people was critical, and through good communication, "we were often able to gather information simply by asking for it," he says.

When that didn't work, Rabenhorst enlisted the aid of senior management to get the information.

The program was inching forward until it suffered a debilitating blow when the CIO left the company in June. Losing a vital sponsor for the project was "a major hit," Rabenhorst says.

VW Credit's service center director, who replaced the CIO on an interim basis, had more experience in sales than in IT, and his initial response to the asset management effort was "lukewarm at best," says Rabenhorst. Nonetheless, Rabenhorst persevered in educating him on the benefits, and over time, the executive bought into the concept.

That helped move the program forward again. For instance, Rabenhorst had been prodding one IT manager for over a month to provide information about some of his assets. The manager continued to resist until the interim CIO gave him orders to fork over the data. Rabenhorst received the information he needed within five hours.

"The thinking was, **'We never did this before, so why do it now?'** "

Harry Rabenhorst,
IT financial manager,
VW Credit Inc.

It took about a year, but the program is now up and running. Information about the company's software assets is stored in a Microsoft Access database and from now on will be updated by Rabenhorst semiannually.

Rabenhorst believes in the benefits of effective asset management, but it took some time to convey that message to other people in the company. "It took a lot of maneuvering to show that what we were doing had value and would continue to," he says. ▸

EVENTS

IT Leadership

Sept. 18-20, Scottsdale, Ariz.
Sponsor: Forrester Research Inc.
Forrester's Technology Leadership Forum 2006: Prospering in Your IT Ecosystem includes tracks on software and integration, infrastructure and mobility, and managing relationships. Presentation topics include preparing for the new user, determining if there's a career future in IT, the future of software as a service, the looming offshore crisis and advice on everything from managing assets to marketing services. **www.forrester.com/events**

Business Process Management

Sept. 19-20, Reston, Va.
Sponsor: Brainstorm Group Inc.
Brainstorm DC features business and technology tracks. Business topics include enabling business process innovation, the role of change management in business transformation and collaborative process improvement. Technology topics include business process architecture modeling, the role of business rules in enterprise architecture and leveraging BPM in a noncommercial environment.
www.brainstorm-group.com

Emerging Technologies

Sept. 27-28, Cambridge, Mass.
Sponsor: *Technology Review*
Technology Review's Emerging Technologies Conference at MIT includes presentations on genetic profiling, nanotoxicity, the online applications wars, software-defined radio, aging-prevention research, patent "trolls" and how they hinder innovation, high-performance batteries to transform transportation and PCs for Hollywood.
www.technologyreview.com

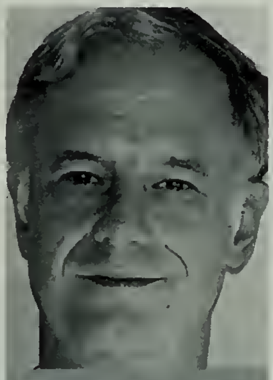
Symposium

Oct. 8-13, Orlando
Sponsor: Gartner Inc.
Gartner's Symposium/ITxpo 2006 includes tracks on application creation, integration and infrastructure; business intelligence, business process management and information management; business application strategies; business decision-maker perspectives on IT; client computing; enterprise architecture; and emerging trends. **www.gartner.com/events**

BART PERKINS

Bad News Is Not Like Fine Wine

BAD NEWS comes in many forms: a failed Sarbanes-Oxley audit, project delays, 26.5 million veterans' records compromised, bugs in new technology products. Some organizations ignore a problem and pretend it doesn't exist until it turns into a major crisis. Unfortunately, very few problems just disappear.



BART PERKINS is managing partner at Louisville, Ky.-based Leverage Partners Inc., which helps organizations invest well in IT. He was previously CIO at Tricon Global Restaurants Inc. and Dole Food Co. Contact him at **BartPerkins@LeveragePartners.com.**

Handling bad news requires enough information to understand the problem and develop possible solutions. Years ago, Col. John Boyd developed the OODA (observation, orientation, decision, action) loop to help new fighter pilots win dogfights. The OODA process can also be applied to handling IT problems:

- **Observation:** Gather the available data.
- **Orientation:** Analyze the data, delineate the critical data, and eliminate unnecessary information.
- **Decision:** Develop potential solutions and analyze the trade-offs. Make sure you have enough information to accurately compare the costs, benefits and likelihood of success associated with each proposed solution. Decide which best fits your organization's requirements.
- **Action:** Once you reach a decision, move forward quickly.

Organizations that lack sufficient confidence or experience may spend too much time in observation and orientation. They are often reluctant to make a decision until they have gathered inordinate amounts of data. This delay prevents timely decisions. Meanwhile, the unresolved problem continues, ramifications grow, and often the situation becomes even more difficult.

There are other factors that affect an organization's ability to react to bad news before problems become crises, and there are other ways to deal with problems as well. In addition to using the OODA approach, here are some other recommendations that may help:

Own the problem. When the problem is yours, admit it and address it. Johnson & Johnson's handling of the Tylenol tampering scandal in 1982 remains the gold standard. The company publicly acknowledged the tampering and recalled more than 31 million bottles of Tylenol (costing it more than $100 million). It quickly developed solid caplets and tamper-resistant packaging. Its communication and actions won it favorable press coverage. A year later, Johnson & Johnson had regained the public's trust, and Tylenol had recovered most of its lost market share.

Rely on facts, not emotions. Get the facts ASAP. Without good data, it's difficult to determine potential business impact or develop effective solutions. Objective, fact-based discussions are much more productive than those based on opinions. Focusing on facts also helps reduce the emotional and political aspects of a problem.

Encourage creative solutions. In 1970, the Apollo 13 moon mission was crippled by an explosion in an oxygen tank. Working with Mission Control, the crew used hoses, cardboard, plastic bags and duct tape to jury-rig the command module's lithium hydroxide supply. The innovative solution provided the landing module with the power, water and oxygen necessary for the crew's survival.

Focus on the solution. Undertake enough diagnosis of problems to get the facts, but don't let your response turn into an exercise in finding and punishing the guilty. Focusing on fault encourages backstabbing and destroys team morale. In contrast, developing solutions unites and energizes teams.

Listen to all levels. In a crisis, companies often rely solely on senior staff, largely ignoring input from other team members. Senior staffers (excluding Dilbert's boss) generally have more experience to draw from and bring valuable perspective. They have experienced other crises (both similar and different) and have seen the successes and failures that resulted from various approaches. Other team members are often closer to the details, however, and can offer creative ideas for solving the problem. To develop the best solution, leverage every knowledge base available.

Beware of cultural differences. This is particularly important in cultures that defer to age and position, especially in offshore efforts. At one industry-leading company, a junior-level Asian programmer watched silently as a senior American programmer presented a flawed software design. The junior programmer spoke up months later, when the flaws caused costly program errors. When asked about his previous silence, he explained, "In my country, a junior programmer must never question a senior programmer."

Act quickly but not hastily. Take time to gather sufficient data, but don't wait to act until the problem is discovered by your competitors, the press, regulatory agencies or your customers. The wider the exposure, the greater the damage.

Every organization regularly encounters bad news. Some stash it away and try to forget about it. Successful organizations use all appropriate resources to address problems effectively and in a timely manner. They know that unlike fine wine, bad news does not get better with age. ▶

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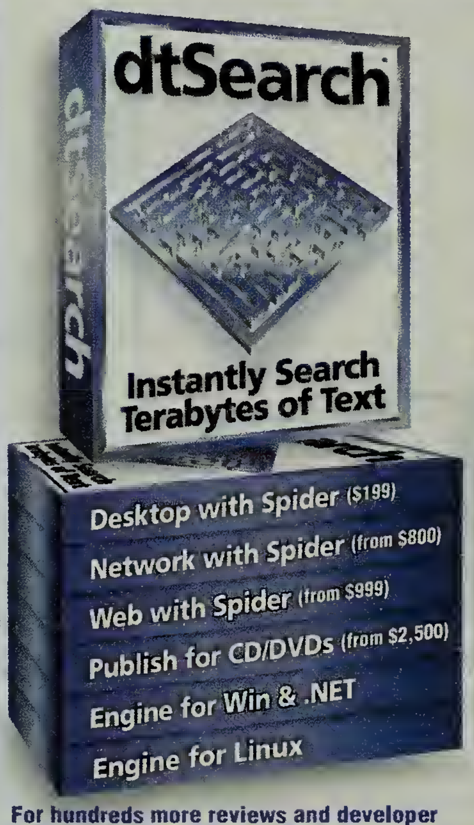
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Philadelphia

city departments can reach "a settlement" with Oracle.

Neff declined to elaborate on the type of settlement that the city is seeking, saying she doesn't want to compromise its position. But she said that the project could be modified or replaced by "a workable solution." In both cases, Neff said, the city wants to protect its investment "and deliver a modern utility and collection system within 18 months."

An Oracle spokeswoman said only that the implementation is "still in progress, and Oracle believes that the work performed to date conforms with the current agreement." She added that the vendor will deliver on its obligations to complete the project.

City Controller Alan Butkovitz said his office is reviewing what happened on Project Ocean and that it's too soon for him to speculate on what went wrong. Asked about the talks with Oracle, Butkovitz said, "Anything the city administration does to make sure there's a workable product for its money is commendable, and we wouldn't get in the way of that."

Handling Complexity

One Project Ocean critic, former Philadelphia Water Commissioner Kumar Kishinchand, said he never felt that the project would work when it was being discussed by city officials in 2002 and 2003.

"One reason is that they picked a company that had never done a water billing system," he said. "Oracle had only done viable customer service systems with a small portion for billing purposes. Municipal billing systems tend to be tremendously complex."

The off-the-shelf components of such systems have to be heavily modified, noted Kishinchand, who left the water commissioner's job in 2004 after holding it for 12 years.

He also argued that problems resulted because the city's water department, which is supposed to be the principal user of the billing system, wasn't put in charge of the project. "Most of what went wrong had to do with empire-building more than anything else," Kishinchand said, accusing city officials of "putting all their eggs in one basket without consulting the water department."

Neff said that her office was involved in choosing Oracle's E-Business Suite ERP software for an array of city uses, including human resources. Most large organizations start with HR because those systems are "fairly well defined," she said. But Philadelphia's finance department decided to make water billing the first application, according to Neff.

She described the Project Ocean system as "very complicated, with very unique features." But, she added, "hindsight is 20/20, and ERP is difficult anyway."

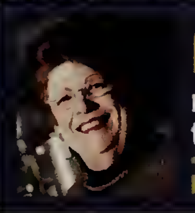
Another difficulty cited by Neff was the heavy turnover among project managers and the department heads who were championing the rollout.

"Continuity was a problem, and we should have better defined business processes," she said. "Problems came up between the contractor and business people. As we put it, it was a project that 'washed ashore' " for IT to handle.

Janice Davis, the first city finance director involved in overseeing Project Ocean, left Philadelphia to become chief financial officer of Atlanta's municipal government in August 2004. Reached in Atlanta last week, Davis denied Kishinchand's claims that organizational power grabs were part of the project. "There was no effort on anyone's part to build an empire, only to upgrade the system," she said.

A year ago, Neff's office was appointed to analyze the work that had been done on the project. The analysis led to the halting of the project last fall and the related suspension of several consultants, including some Oracle employees.

Neff, who was a *Computerworld* Premier 100 IT Leaders honoree this year, said her impending departure has nothing to do with the Project Ocean problems. "I'm very proud of all the improvements and successful projects that have been instituted under my term as CIO," she said. ▸



"Continuity was a problem, and we should have better defined business processes. Problems came up between [Oracle] and business people.

DIANAH NEFF, CIO, CITY OF PHILADELPHIA

Consultant's Hours, Credentials Questioned by Philadelphia Controller

A COMPUTER CONSULTANT who billed Philadelphia's government more than $1.4 million for her work on the Project Ocean water billing system has come under scrutiny from the city's controller, who criticized local officials for not questioning the legitimacy of her bills or checking whether she had the required skills before awarding her two no-bid contracts.

The lack of independent background and résumé checks on New Orleans-based consultant Jeanette Foxworth "was a grave oversight," City Controller Alan Butkovitz wrote in a report that was issued to Philadelphia CIO Dianah Neff last month.

Butkovitz said his office conducted a reference check on Foxworth as part of its ongoing review of Project Ocean. He listed a series of possible exaggerations on her résumé, claiming that she "significantly" overstated her job responsibilities on several IT projects. In addition, Butkovitz wrote that Foxworth was fired by one of her listed clients in Hartford, Conn., for lack of performance.

In a separate matter, Foxworth was indicted in April by a federal grand jury in Connecticut on charges of paying a state senator $3,000 to help her win consulting contracts. She pleaded not guilty and faces trial in November.

Foxworth, the president of consulting firm Acetech Inc., couldn't be reached for comment last week, nor could her attorney.

According to Butkovitz, Foxworth was paid $150 an hour and billed the city for an average of more than 82 hours per week from December 2001 to March 2002, when she was working on an earlier project that the city scrapped. She was also working part time on an IT project in Connecticut that December, he claimed.

"It seems highly improbable that any person could sustain those kinds of hours for three consecutive months without any break," Butkovitz wrote. He added that city officials and an outside IT recruiting firm that retained Foxworth should have questioned whether the amount of billable hours she submitted was legitimate.

In a written response to Butkovitz, Neff said that neither she nor other workers in the Mayor's Office of Information Services (MOIS) were involved in hiring Foxworth. "As far as I know," she added, "at the time Ms. Foxworth was hired, the city had no standard practice requiring background checks for consultants."

Neff wrote that in November 2003, the MOIS instituted a process for qualifying vendors that requires background screening, reference checks "and many other appropriate validations." And 18 months ago, her department began running police background checks on all consultants and contractors involved in city IT projects, according to Neff.

She acknowledged that procedures for verifying contractor time sheets weren't "tightly monitored" in the past. But that process "has been corrected and is being followed diligently today," Neff wrote.

The MOIS notified Foxworth last October that her services would no longer be used on Project Ocean, Neff said in her response.

In an interview last week, Neff said she and Foxworth knew each other through occasional meetings regarding the billing system project.

"I didn't have any reason to doubt her ability for the work she was hired to do," Neff said. "I do not feel she didn't deliver, but whether she worked those hours, I can't say."

– MATT HAMBLEN

IT POLITICS

"In light of the enormous scope, complexity and costs associated with Project Ocean, the fact that no one checked to determine whether Ms. Foxworth had the necessary skills and expertise was a grave oversight.

FROM THE REPORT SENT TO PHILADELPHIA CIO **DIANAH NEFF** BY CITY CONTROLLER **ALAN BUTKOVITZ**

"Neither I nor my department was involved in hiring Jeanette Foxworth. As far as I know, at the time Ms. Foxworth was hired, the city had no standard practice requiring background checks for consultants.

FROM **NEFF'S** WRITTEN RESPONSE TO **BUTKOVITZ**

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FRANK HAYES ▪ FRANKLY SPEAKING

VA's Testimony

JAMES NICHOLSON BLEW IT. And just how badly the Veterans Affairs secretary blew it was obvious last week, when yet another computer containing names and personal data of thousands of veterans was reported missing (see story, page 18). This time, it disappeared from an outside contractor's office, and there wasn't a thing the VA could have done about it. But never mind the facts: Almost instantly, politicians of all stripes were again lamenting the threat to vets and calling for Nicholson's head on a platter.

What did Nicholson do wrong? Nothing. It's what he said — or rather, what he failed to say — that will likely cost him his job.

He may still have a chance to salvage the situation, though — if not for himself, then for those who will still be responsible for IT security at the VA after Nicholson has been kicked to the curb.

To do that, he'll have to go in front of a succession of congressional committees and say something he should have said months ago.

Something like this:

"At the end of July, one of our subcontractors discovered that a PC containing information on as many as 38,000 veterans was missing. It wasn't stolen by a burglar from the home of an employee who took it home without permission, or by a smash-and-grab thief from someone's car. It disappeared from an office in a building with security guards, surveillance cameras and card keys. It may not even be stolen, just misplaced. We don't know. For now, we're assuming the worst.

"That PC was entirely under the control of the subcontractor, Unisys. There's nothing anyone at the VA could have done to prevent its loss. But it happened on my watch. I'm responsible.

"I wasn't happy to hear that veterans' personal information once again may be at risk. I know that none of you are happy about it, either. Some of you have demanded my resignation. Again.

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com**.

"But I am here today to tell you that as long as I am VA secretary, you'll keep hearing about security breaches.

"You'll hear about them because we'll continue to tighten our security. We'll continue to improve our reporting of security incidents, and we'll continue to move faster each time we find a problem.

"As our security improves, we'll discover more incidents, some old, some new. We'll report them faster and in more detail.

"And the number of incidents you hear about will skyrocket.

"It will continue to skyrocket until we finally get our security problems under control. That will require changing both the technology and the culture of the VA when it comes to securing data and reporting security incidents.

"It will take years.

"Now you have a choice. You can demand better security for our veterans' personal information. I hope you do. But if you do that, you'll continue to hear reports of data security problems at the VA for a long time to come.

"Or you can demand a stop to them. You can fire me and tell my successor that you never want to see another news story about a data security incident at the VA.

"In that case, you'll be sending a strong message to the VA and to every other federal agency: Do not look for security problems. Bury them when they're discovered. Do whatever it takes to hide the incidents. But never admit that security has been breached.

"You will send the message that you don't care whether data is safe — you just don't want to hear bad news.

"Many federal departments may be willing to lie to you about that bad news. I and the VA will not.

"I made a serious mistake in recent months. I failed to explain to you that the news you hear about our security issues will get worse as our security actually gets better.

"So let me make this clear to you today: We are curing our security problems. But as long as we are, there will be bad news — and I will deliver it to you.

"The day I don't is the day you'll deserve my resignation." ◗

Let's Try This One More Time

This company offers several ways to contact IT for help, ranging from an intranet ticketing system to emergency pagers. "I got a panicked call directly from one user who had tracked me down via a company receptionist who was aware of the emergency pager schedule," reports a support pilot fish on the scene. "At the same time, I noticed a 911 emergency call had been placed from the same user's office moments before. Upon investigation, he confessed that he had intentionally dialed 911 in an attempt to contact our emergency technical support line. Needless to say, it's doubtful the local emergency dispatch center had access to a service to assist this particular caller."

SHARK TANK

Oops!

Pilot fish at this start-up develops an online application that involves a file library download. "During testing, I use a small, fast-downloading stock image of a monkey for my test download file," says fish. "When the application is working without errors, it gets handed off to marketing and quality control for peer testing, and then the executive VP of marketing gives the order to go live." But the VP has neglected to supply the file library that's actually supposed to be downloaded. And when the first customer downloads the "library," the puzzled call to customer support is inevitable: "Is this what I get for $200? A picture of a monkey?"

Close Call

Staffers at this army base are issued electronic signature cards for signing financial reports, and there are the usual shakedown problems. One common issue, according to a pilot fish working there: The cards aren't marked "This side up," and they can go into the readers four ways – but three won't work. "I'm called into my boss's office, and he's frustrated trying to get a document signed, and I can see his card is in upside down," says fish. "This calls for all my diplomatic skills – I don't want to embarrass him. So I get on the phone and call myself and pretend to be troubleshooting. As usual, this elicits a user trip to the coffee area. While he's gone, I flip his card – and all is well when he returns."

Not IT's Problem

This user is on the road, so it's his assistant who relays a trouble report by e-mail to the help desk: "He is having problems with the screen shaking on his laptop." Pilot fish replies: "When will he be back in the office? This may not be one we can fix remotely. Assistant's e-mailed response: "Never mind. The building was shaking. The computer is OK."

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